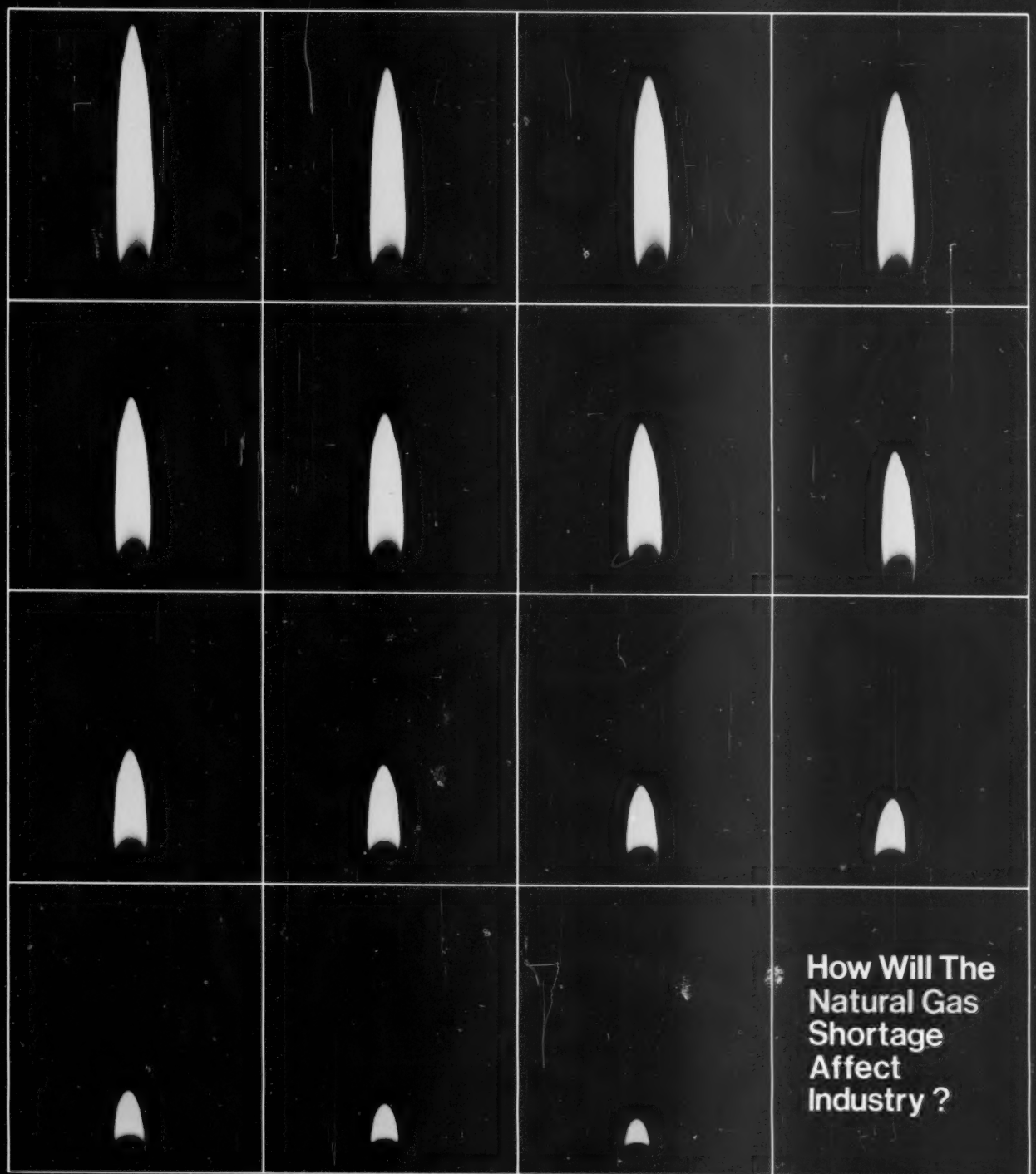
Commerce Today

SEPTEMBER 15, 1975



How Will The Natural Gas Shortage Affect Industry ?

FROM THE
SECRETARY

The Natural Gas Shortage Is Real

The shiver of concern over expected natural gas shortages this winter has been accompanied by a chill of skepticism, a still slight but pervasive hint that the shortage may be contrived rather than real. The conspiracy theory may be comforting to confirmed cynics, even though it's not going to warm any homes this winter or keep industries at full production.

But we should dash some cold logic on the notion that the anticipated shortages are the result of a manipulation by gas companies seeking profits at public expense. The fact is that for the past 15 or 20 years the natural gas production industry, government officials and independent geologists have been warning the nation of an impending and deepening natural gas shortage. The demand for natural gas, because of its abundance, cleanliness, and low price, has increased each year since World War II.

Production has exceeded discoveries every year since 1968. We have only an 11-year supply left at current rates of demand, and at most a 40-year supply given the current rate of new discoveries and assuming no growth in demand.

To give some idea of how we have squandered this resource, in 1954 gas reserves were 23 times annual production. In the late 1940s gas heated three out of 10 homes; today it heats six out of 10 homes. Industrial sales of natural gas increased nearly sixfold through 1972. Natural gas now supplies 31 percent of our energy needs compared to 18 percent in 1950.

What caused this scramble for natural gas, as if it were part of a bargain basement sale? The answer is simple: bargain basement prices. The Supreme Court decision of 1954 allowed the Federal Power Commission to regulate the price of natural gas at the wellhead. Low prices made sense at that time because they were designed to prevent waste. In 1954, natural gas was considered a surplus commodity that was flagrantly wasted by flaring and venting at the well site. There was virtually no distribution system to market it, and the low price encouraged its sale and use. But the energy situation has shifted radically since then, and the regulated price does not reflect this radical change. Natural gas sells at an energy equivalent of slightly more than $3 per barrel of oil at a time when a barrel of oil is fetching up to $14.

Given this situation, any contrivance on the part of the gas producers to withhold some hidden reserves would almost be incidental to the outcome. My own view of what has happened is that the bargain basement sale has resulted in the inevitable—demand has naturally outstripped the supply.

For the immediate future, it's not a hopeless situation by any means. There are a number of options available this winter, such as substitute fuels. The FPC has adopted a policy of allowing certain industries whose gas suppliers are curtailed by pipeline companies to buy the gas directly from producers at unregulated prices. A concerted conservation effort on the part of all Americans who use natural gas will obviously be a basic objective during the winter months and, I should add, in the years ahead.

Considering the long term, I'll stand by a statement I made in July. Unless some action is taken to deregulate wellhead prices promptly, we're going to see the disappearance of gas from general use in the United States before the 1990s. We need deregulation to bring supply and demand into balance and to encourage the use of alternative fuels, as well as stimulate exploration for natural gas deposits, especially in the coastal areas. We also must take action to substitute as rapidly as possible coal for gas, especially as boiler fuels; step up plans to manfacture synthetic natural gas from coal and waste materials, and authorize a transport system to bring Alaskan gas reserves to the U.S. mainland.

These are only some of the things we must do. What we must resist, though, is the nonsense that these shortages have been foisted on us by a cabal of avaricious producers. The danger of conspiracy theories is that they provide easy answers to a problem, delaying the day when you must deal realistically with the problem in all its complexities.

Rogers C B Morton

Commerce Today

Vol. V, No. 25, September 15, 1975

2 Economic Highlights

Measures of consumer attitudes and spending, key factors in the economic recovery, have moved up substantially following the sharp decline in 1974.

4 Newsmemo

5 Price Deregulation Called Key To Avoiding Natural Gas Crisis

Despite confusion and rhetoric generated by the problem, the nation moves into winter facing a 5 to 7 percent reduction in natural gas supplies.

9 Individualized Approaches Improve Productivity For Three Companies

Beech Aircraft, Thiem Corporation, and U.S. Steel are subjects of a study by the National Commission on Productivity.

12 Standards Prove Their Worth In Battle Against Inflation

From armor to atomic clocks, standards have helped industry economize through increased production runs, lower inventory costs, and simplified sales and merchandizing plans.

15 Energy Management Digest

16 Domestic Business Report

Voluntary program's success probably ends need for appliance energy legislation—Steel industry needs $26 billion for capital formation—Unit to provide national coordination for Minority Enterprise Small Business Investment Companies—Growing proportion of U.S. households are headed by individuals living alone or with non-relatives.

20 International Commerce Report

Report on roadbuilding seminars in Africa—Washington Official Trade Briefs—U.S. opportunities in increased Central American tourism—Reports from trade exhibitions in London, Moscow—Current economic situation in Australia, Saudi Arabia, Mexico, Indonesia—Calendar for World Traders—Commerce Department schedule of trade promotions abroad—Worldwide business opportunities in licensing, sales, construction.

COVER: *As the natural gas supply dwindles in this country, the blue gas flame will lower sharply for industry in some areas until alternative sources of energy are found to replace it. Story beginning on page 5 presents an assessment by Commerce officials of where the nation stands regarding natural gas supplies.*

U.S. DEPARTMENT OF COMMERCE

ROGERS C. B. MORTON
Secretary

JAMES A. BAKER, III
Under Secretary

WILLIAM F. RHATICAN
Assistant to the Secretary and Director of Communications

RICHARD BALENTINE
Editor

CLARENCE M. ZENS
Associate Editor, International Commerce

ARTHUR McDERMOTT
Associate Editor, Domestic Business

Staff Writers: *Douglas F. Carroll, Felix Cotten, Margaret L. Hanson, Leslie Wilder.*

Published biweekly by the U.S. Department of Commerce, Washington, D.C. Annual subscription rate $29.80 ($7.45 additional for foreign mailing, $5.75 additional for domestic air mailing). Single copy $1.15. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent, U.S. Government Printing Office, Washington, D.C. 20402, or to any U.S. Department of Commerce District Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.
Microfiche copy available at $1.45 per issue from National Technical Information Service, Springfield, Virginia, 22151. Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, D.C. 20230.

Contents of this publication are not copyrighted unless indicated, and if not so indicated, the articles may be reproduced in part or in full without any prior consent. The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through August 31, 1976.

Consumer Attitudes And Spending: Key Factors In Economic Outlook

Economic Highlights is prepared by James L. Pate, Assistant Secretary of Commerce for Economic Affairs.

The scope and magnitude of the economic recovery now under way depends importantly on a continuation of the recent upturn in retail sales. The ability of consumers to spend depends on their income and asset positions. In turn, their willingness to spend, particularly for major items that require installment payments, is conditioned by a number of real and psychological factors, which are commonly viewed as determining the state of consumer confidence.

Chart 1 depicts two well-known indicators of consumer attitudes compiled by private organizations. Although the techniques used by each organization are different, the results are strikingly similar. Both measures of consumer attitudes registered substantial declines during 1973 and 1974 and both have begun to recover in 1975.

Government policymakers and business analysts pay close attention to consumer attitudes, largely because of the implications for consumer spending. Retail sales in constant dollars (Chart 2) began a downward trend in the second quarter of 1973, shortly after the decline in consumer attitudes was under way, but before real income started to decline. The cyclical trough in deflated retail sales came in November 1974, generally coinciding with low points registered in consumer attitudinal surveys. The impressive rebound in deflated retail sales thus far in 1975, at an annual rate of 12.7 percent from November 1974 to July 1975, is consistent with the recent improvement in consumer attitudes. Further improvement in consumer attitudes would seem to be among the prerequisites for sustained recovery in consumer spending.

The resurgence of inflation in 1973 and 1974, and its effects on income, wealth, interest rates, the stock market, employment conditions, and overall economic activity, was the underlying reason for the deterioration in consumer attitudes. Accelerated rates of price increase began to erode gains in current dollar income, and fewer and fewer families perceived an improvement in their real income position. Chart 3 shows one of the best measures of the economic well-being of consumers—per capita disposable personal income in constant dollars (real DPI), or what people have to spend or save after allowance for taxes and rising prices. Compared with the sharp increase in 1972 and early 1973, real DPI barely rose in the second and third quarters of 1973 and then leveled off at year-end. It should be noted that 1973 was a year of sharply rising farm prices and net farm income. Thus, real DPI for the majority of nonfarm families may have declined during that time.

In late 1973 and early 1974, the oil embargo and its effects, such as gasoline shortages, further depressed consumer attitudes which resulted in declining automobile sales and layoffs of workers in the automotive and travel-related industries. Consumer prices accelerated to a double-digit rate of increase and real DPI began to decline in the first quarter of 1974. The termination of the oil embargo in the spring of 1974 and the ending of gasoline shortages was accompanied by widespread news reports that business conditions were expected to improve in the months ahead. In fact, there was a brief pickup in domestic economic activity during the spring and early summer of 1974. These factors contributed to a temporary improvement in consumer attitudes. Real DPI, however, continued to decline after the first quarter of 1974, and inflation persisted at extremely high rates.

Inflation also eroded the liquidity of households. As shown in Chart 4, the rate of increase in household acquisitions of financial assets began to decline in the latter half of 1973 and dropped further in 1974. In real terms, total financial assets of households actually declined.

By late 1974, it was increasingly clear that the nation was experiencing the full force of a recession, and the indexes of consumer attitudes plunged to historic lows. The upturn in the indexes of consumer attitudes in 1975 largely reflected a rise in the proportion of families expecting better economic conditions during the next six months and increased optimism concerning prospects for higher income.

As emphasized earlier, inflation and inflationary expectations exert a strong influence on consumer attitudes. As shown in Chart 5, the annual rate of change in consumer prices declined from 12.7 percent in the three months ended November 1974 to 5 percent in the three months ended May 1975. As a result, the May survey of consumer sentiment revealed that about half of all families throught retail prices would stay the same or decline during the next 12 months, compared with only 15 percent who thought so in October 1974. This was an important plus factor in the improvement in consumer sentiment.

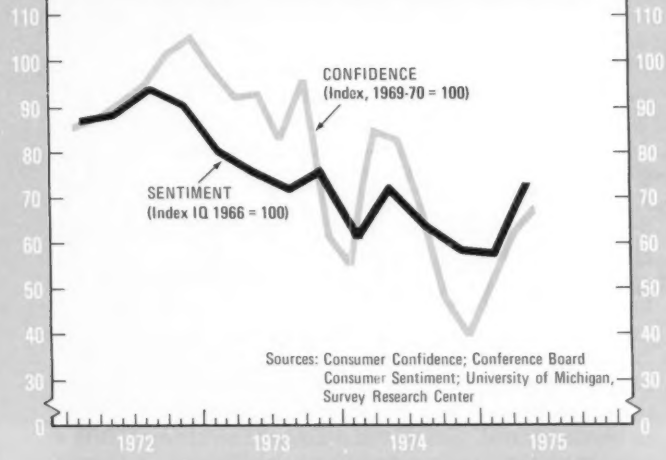
The dramatic decline in the manufacturing layoff rate, from 3.5 per 100 workers in January to 1.4 in July and the sharp upturn in real DPI during the second quarter were additional positive influences on consumer attitudes. Real DPI in the second quarter benefited from the Tax Reduction Act of 1975, which included rebates on 1974 income tax liabilities, lower tax withholding schedules, and a special one-time payment to recipients of social security, railroad retirement, and supplemental security income. Because of the nonrecurring nature of most of the income injections during the second quarter, real DPI may decline in the third quarter—but should exceed the depressed level of the first quarter.

Consumers saved an extraordinarily high share of income during the second quarter of 1975, mainly due to the Tax Reduction Act. Households channeled increased savings largely into liquid financial assets, as additions to demand deposits, currency, and savings accounts in the second quarter rose substantially above the 1974 flows (Chart 4). The debt position of consumers also has improved since late 1974, as repayments of installment credit exceeded new extensions.

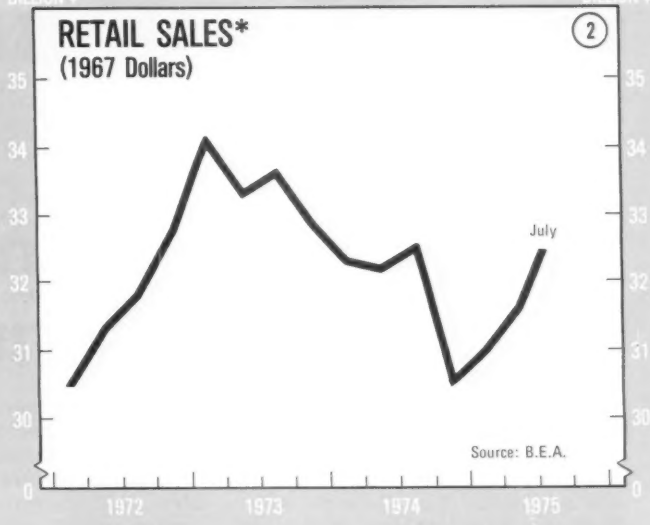
The rebuilding of consumer liquidity has favorable implications for the restoration of consumer confidence during the near term. If real income declines temporarily in the third quarter, consumers will be in a position to tap savings and to draw upon liquid assets.

Consumer attitudes and spending also should be influenced positively by further improvement in the unemployment situation as real GNP recovers. At the same time, it should be recognized that the resurgence in inflation since May, largely due to food and fuel, may be a dampening factor on consumer attitudes.

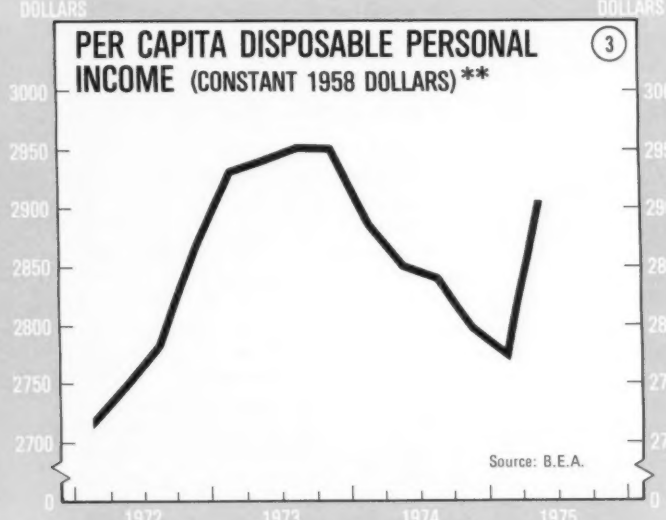
CONSUMER CONFIDENCE & SENTIMENT ①



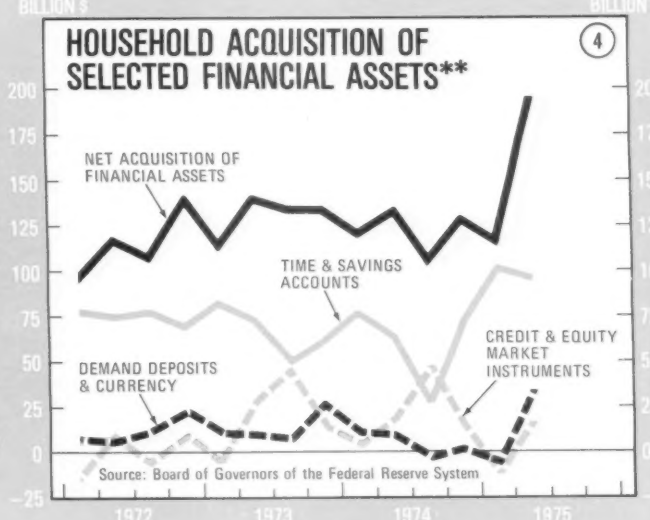
RETAIL SALES* ②
(1967 Dollars)



PER CAPITA DISPOSABLE PERSONAL INCOME (CONSTANT 1958 DOLLARS)** ③

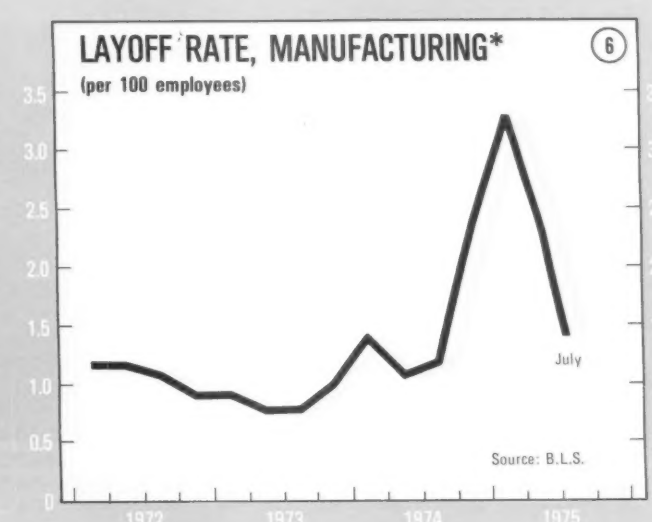


HOUSEHOLD ACQUISITION OF SELECTED FINANCIAL ASSETS** ④



CONSUMER PRICE INDEX** ⑤
CHANGE OVER 3-MONTH SPANS

LAYOFF RATE, MANUFACTURING* ⑥
(per 100 employees)



*Seasonally Adjusted Quarterly Average of Monthly Data
**Seasonally Adjusted Annual Rate

Newsmemo

A shoreline management grant to the state of Indiana? Indeed. Indiana's Lake Michigan stretch, though small, contains one of the heaviest industrial and population concentrations in the entire nation, and a mounting number of difficult problems. That's why it belongs, with 29 other states, in the Coastal Zone Management Program funded through the Commerce Department's National Oceanic and Atmospheric Administration. Indiana will use the grant to help develop best use of its shoreline among competing energy, industrial, housing and recreational claimants, and also to solve serious erosion problems.

What do Washington, D.C., St. Louis and San Francisco have in common with Morris County, Texas; Liberty County, Georgia, and Douglas County, Nevada? All are colored blue in a new Census Bureau map of the U.S. This signifies that they are magnets for workers who commute into them across county lines. Counties that have a net outcommuting situation are colored red. All others are colored gray. Many aspects of worker commuting patterns are dramatically shown. Commuting in the west, for example, is less likely to cross county lines than in the east, not because of less commuter traffic but because the western counties are larger.

Question: has your company's Domestic International Sales Corporation (DISC) or Western Hemisphere Trading Corporation served to boost exports and employment? The House Ways and Means Committee, reviewing export tax incentives as it develops a broad tax reform program. is interested in answers. In the export community a Special Committee for U.S. Exports has been formed and questionnaires, such as those prepared by the Western Electronic Manufacturers Association and the California Council for International Trade, are being circulated to transmit information to the legislators.

Environmental pressures are giving impetus to efforts to recycle chemicals from scrap tires and plastic wastes. In Germany the government and the plastics industry are building a pilot plant to recover methane, ethylene, styrene, benzene and waxes from used plastics. In the U.S., Goodyear and the Oil Shale Corp. will use a similar technique to process 15 tons per day of discarded tires by early 1976. If this test program succeeds, it could lead to 15 full-size plants recycling the 165 million tires worn out yearly in the U.S.

Mechanical fastener producers have stopped shaking their heads over worldwide standards difficulties. Just a few years ago the problems of developing a uniform international system appeared to be insurmountable. Today the solution is at hand. Agreement on worldwide standards for screw threads was reached at recent International Standards Organization (ISO) meetings in Prague and Munich. These accords merge the difference of ISO threads now standard in Europe and threads used extensively on this side of the Atlantic. The American National Standards Institute is now developing standards that will be in full agreement with the ISO versions.

Growing intercontinental telephone and telegraph traffic still relies on underwater cables along with satellites in the sky. This month American Telephone & Telegraph is due to start laying another cable to Europe. Its capacity of 4,000 circuits is five times that of the last previous new cable, laid in 1968. Other such cables are being planned or are under construction. The worldwide cable system continues to complement the satellite network in handling telecommunications traffic across the oceans.

Qualified men and women are being sought by the State Department to serve as economic or commercial officers at embassies and consulates abroad and in Washington, D.C. There are no formal education or language requirements but a good background in economics or international business activity is helpful. Starting salaries range from $10,520 to $14,745, plus overseas allowances. Interested applicants should take the Foreign Service Officer examination which will be given Dec. 6 at 250 sites throughout the U.S. and abroad. Applicants must be 21 years of age and citizens of the U.S. For full details and application forms, write: Board of Examiners, Rm. 7207, Department of State, Washington, D.C. 20520.

Commerce Today
Vol V, No. 25
September 15, 1975

Price Deregulation Called Key To Avoiding Natural Gas Crisis

"In the face of rising demand, the supply of natural gas available for all purposes in 1975 is expected to be one to 1.3 trillion cubic feet less than in 1974, a reduction of 5 to 7 percent. While the impact of this shortage is expected to be spotty, and some areas and industries will be affected much more than others, the central fact in the situation is that the natural gas supply is declining. The confusion and rhetoric generated by the natural gas problem should not be allowed to obscure this central fact."

In this way, Secretary of Commerce Rogers C. B. Morton sums up the situation confronting the American business community and consumers as the nation moves toward another winter in which industry and consumers will not have as much natural gas as they would like.

"Perhaps most important of all," Morton says, "is the need for each individual to change his attitude toward the entire energy problem. There is a primary need for a new conservation ethic and for an educational program in which government, industry, and communities will join to alert the business community and the public to what lies ahead and to what must be done to deal with the problem."

Root cause: regulation

Morton emphasizes that a root cause of the present situation regarding natural gas is federal regulation of the price of interstate gas at the wellhead, which now holds the wellhead price at an average of some 53 cents per 1,000 cubic feet, or the equivalent of slightly more than $3 per barrel for oil, and this at a time when the delivered price for imported oil is in the $13 per barrel range and $8 for domestic oil on the average. Thus the regulated natural gas price, which was originally designed to encourage the use of gas, now continues to stimulate greater consumption instead of much needed conservation.

As a result of this situation, Morton points out, the nation has consumed twice as much natural gas in the last six years as has been discovered in the lower 48 states. And also in consequence, a number of states will suffer gas shortages this winter, depending upon the severity of the season and declining gas availability. Morton comments that severe shortages could occur in North Carolina, South Carolina, New Jersey, Ohio, Kentucky, Pennsylvania, Virginia, Maryland, District of Columbia, New York, and South Carolina.

"An unusually cold winter," he adds, "could bring a shutdown of some plants

PUTTING IT TOGETHER—*Prior to 1960, this country's natural gas surplus was flared off because there was no network to deliver it to customers. Now the network exists, but overuse threatens to dry up supplies. Above, a 34" loop line of the El Paso Natural Gas Co.*

HITTING BOTTOM—*Using more natural gas than we're finding each year could leave this pipeline of the Pacific Lighting Service Co. empty in the not too distant future.*

and layoffs of thousands of workers."

So far as the natural gas supply situation is concerned, Morton says:

"We find ourselves facing the real possibility of totally depleting this finite source of one of our most valuable forms of energy. The enormity of this folly can be realized when we contemplate the impact this would have on industries that utilize natural gas as feedstock for which there is no known substitute—industries that produce such things as synthetic fibers, petrochemicals and fertilizer."

President Ford, in his State of the Union message to Congress last January, recommended the removal of federal price regulation on new supplies of natural gas moving in the interstate market. The purpose was to reduce the demand for natural gas supplies and to stimulate exploration and production of new gas for the interstate market. The deregulation would not apply to gas now moving in the interstate market, which would still move at the regulated price.

Thus far Congress has taken no conclusive action on this proposal. However, consideration has been given to an alternative plan for interstate gas regulation.

Phenomenal turnaround

There has been a phenomenal turnaround in the use of natural gas in the United States. In former years, vast quantities of natural gas were wasted by venting and flaring. It has been estimated that since 1900 more than 100 trillion cubic feet have been wasted, or more than four times the present annual consumption in the U.S. To curb the waste, the Federal Government and industry encouraged consumption. Even when the Federal Power Commission began the regulation of the wellhead price of interstate gas in 1954, in consequence of a Supreme Court decision, natural gas was essentially a surplus commodity without an adequate distribution system to market it.

So far as Federal Government policy is concerned, this is where the matter now rests. But consumption has increased astronomically since World War II, much faster than for other energy materials. The following figures on total U.S. use of natural gas, expressed in trillions of cubic feet, show how fast the increase has been: 1946, 4.03; 1950, 6.28; 1960, 12.77; 1967, 18.17; 1975 (estimated), 21.5. It is estimated that, with unrestrained demand at the present regulated price for interstate gas, the use in 1975 would have been 26 trillion cubic feet.

Each year through 1967, new additions to gas reserves exceeded production. But beginning with 1968, this trend reversed except for 1970, when Alaskan gas was included in the reserves. In 1964, 10 years after price regulation at the wellhead on interstate gas began, 53 percent of new additions to reserves went to the interstate market. In 1973, this percentage had dropped to 17.

At present, an estimated two-thirds of the natural gas used goes to the interstate market, and one-third to the intrastate market, where the wellhead price is not regulated. This ratio exists, despite the rapid decline in the amount of new reserves committed to the interstate market in the last 11 years.

As of January 1, 1975, U.S. natural gas reserves expressed in trillions of cubic feet, were calculated as follows: proven 237.1; inferred 180; speculative between 322 and 655. Thus, the total proven, inferred, and speculative U.S. reserves would range between 739.1 and 1,072.1 trillion cubic feet. At the restrained 1975 rate of consumption, the proven reserves would last 11 years, and the proven, inferred, and speculative reserves, if it all panned out, would last 34 to 50 years. The educated estimate is that the U.S. has about a 40-year supply of natural gas left at the present consumption rate.

World natural gas reserves were estimated in 1973 at 2,133 trillion cubic feet. The Sino-Soviet bloc has 34 percent of this, the Middle East 29 percent, the United States 12 percent, Africa 11 percent, Western Europe 8 percent, and the Far East 5 percent.

Secretary Morton is convinced that the present situation is only temporary, and that given time the nation will develop the technology to provide it with synthetic gas from coal and essentially inexhaustible energy forms, such as solar energy and nuclear fusion. But the question is what should government, the business community, and the public do now. On this point, Commerce Department officials who are deeply immersed in the natural gas problem, have some suggestions.

The first essential, they feel, is to deregulate the price of new interstate gas at the wellhead, as the President has proposed, and thus end an obsolete policy which in its origin was intended to promote the use of natural gas. The present situation, they point out, is the reverse of what existed formerly. Moreover, the wanton waste of former years has been curbed to a large degree.

Jack Gaines, Chief of the Natural Gas Task Force of Commerce's Office of Energy Programs, comments that deregulation of the wellhead price of new interstate gas would exert a gradual upward push on the natural gas price structure, since it would apply only to gas newly dedicated to the interstate market.

"It wouldn't happen all at once," he adds, "and anyhow if *all* gas were removed from price control (which has not been proposed), the price of gas to the consumer would not triple or quadruple, as some have suggested, because transmission and other handling costs would remain constant.

"Let us look at it this way. If the regulated price of interstate gas at the wellhead is 53 cents per 1,000 cubic feet and the transmission and other costs, by way of example, are $1, the total cost to the consumer under the regulated price would be $1.51 per 1,000 cubic feet.

"Now, with an unregulated price of interstate gas at $1.50 to $2 per 1,000 cubic feet, we might assume that the gas formerly under regulation would reach that level. The transmission cost still would be $1 per 1,000 cubic feet. So the cost to the consumer under the unregulated price would be $2.50 to $3 per 1,000 cubic feet. This is not triple or quadruple the regulated price. One should bear in mind that the above example would be reached only after all old gas contracts have expired and been replaced with new."

One point repeatedly emphasized is that, despite the cutbacks in gas supply which some states are going to experience, there appears to be no probability for residential gas to cut off. This is because the Federal Power Commission has a list of nine priorities in natural gas use, and the homeowner stands at the top of the list. Thus, as it stands, the people to be first affected by cutbacks will be industry and business at the lower or lowest priority levels. This aided by alternative sources of energy, would not affect the homeowner so far as heat for his house is concerned, but it might affect his job if he happened to work for a firm that had a cutback in its natural gas supply.

Seek reasonable balance

"Through this whole thing," Gaines emphasizes, "we have to recognize that industry must have gas to operate. How has anyone been helped if he has a warm home and no job? Human needs are paramount, but a reasonable balance must be struck.

"Conservation is an absolute necessity, both on the part of the business community and the homeowner. There is very little that can be done to increase immediately the domestic supply of natural gas. We must make the most of what we have. It takes up to five years to discover and bring in a new gas well.

"The homeowner should realize that, under reasonable standards, he might not be quite as warm in his home, but the industry that provides him or his neighbors with jobs will keep going. Industry should recognize that the abundant supplies of natural gas in all probability will never be available again as in the past, that future supplies will be tighter and prices higher.

"Firms should start studies on how to reduce their dependence on natural gas. Even in certain processes where no substitute for natural gas now exists they should start research to develop substitutes.

VITAL TO INDUSTRY—*Natural gas has many industrial applications. This Peoples Gas Light and Coke Co. photo shows gas cutting torches slicing steel plate.*

"Information which we have received shows that industries generally are aware of the situation and are taking steps to help themselves."

Dr. Samuel Tuthill, Special Assistant to the Secretary for Energy Policy, emphasizes the need for the "wise use" of gas by both the business community and the residential user as a means of alleviating the situation. He says that crisis situations probably could be averted by the sparing use of gas by all users.

One thing that has reduced the interstate supply, he points out, is the development of a vigorous intrastate market within the state where the gas is produced and where it can be sold at whatever the market will pay.

"In some cases a thousand cubic feet of gas in the intrastate market is selling for well over a dollar, whereas it is limited to 53 cents in the interstate market, so obviously the intrastate market is going to be filled first. As interstate contracts have expired, they have not been renewed by the suppliers of gas because they can make twice as much money not renewing them.

"So depending on what the contract spectrum was in an interstate pipeline they will not have supplies. Parts of Pennsylvania, for example, will be stressed and parts will not be stressed because different pipelines serve them.

"So far as reducing the geographic problems, the response to a natural gas shortage by and large is in two areas. One is conservation, keeping the thermostat low in the whole heating section, and making what supply is available go farther and to more people, and the other is to supply alternate fuels.

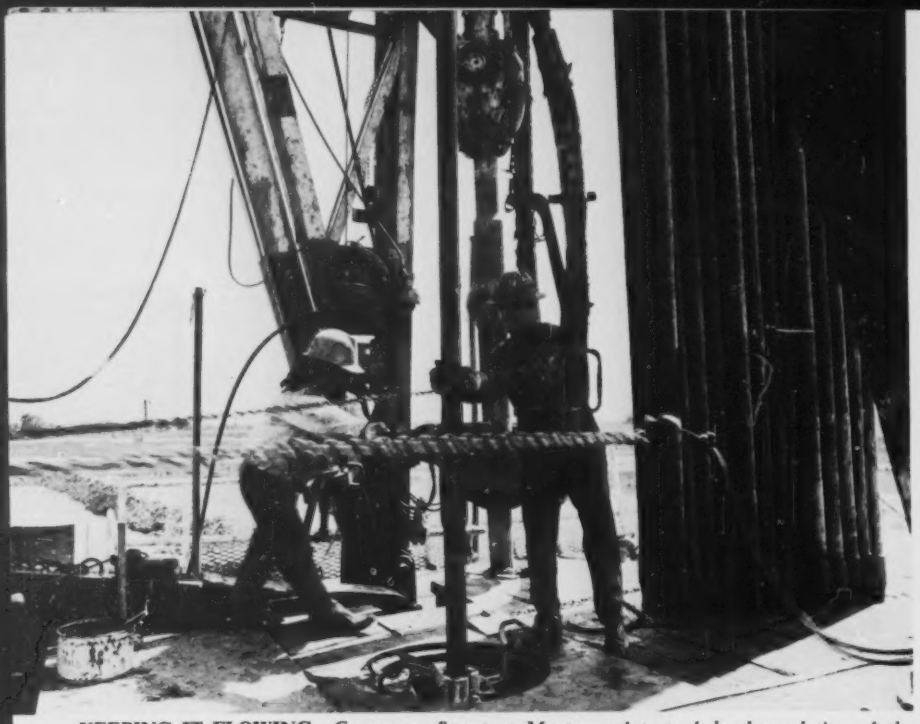
"The moving of gas from pipeline to pipeline is fraught with a lot of economic problems. Who pays the differences in value is a serious question and who abrogates contracts, so that moving the shortage around and making it even everywhere is not practical, either from an engineering, legal, or economic point of view."

Dr. Tuthill emphasizes the importance of an educational effort on the part of both government and industry which will enable employees and the public generally to understand the natural gas system and the economics of energy distribution.

"Over the long term or short term," he says, "the optimum efficient use of energy resources is in the best interest of business and industry and society. If everybody runs their home thermostat at 85 or whatever and wastes gas, it is not going to be in the system for the industry which provides many people with an income. The energy resources that are not used are available for other uses, either as raw stocks in the case of natural gas or as energy for other systems. The cubic foot of gas or the gallon of petroleum you don't use is just as good if not better than finding it."

Dr. Tuthill says that a 5 to 7 percent decline in gas supply in 1975 could be accommodated by not dumping gas that is made available in the system by unexpected warm weather in winter. He recalls that traditionally such gas is usually sold out of the system as a sort of distress merchandise.

"When we start curtailing below the firm contract level," he adds, "there should be pipeline capacity to keep the gas in motion or move it into markets that would



KEEPING IT FLOWING—*Commerce Secretary Morton points to federal regulation of the price of interstate gas at the wellhead as the chief cause in this country's shrinking supply of natural gas. Deregulation would put natural gas on a par with other energy sources and spur the hunt for this vital resource, in Morton's view. Above, a drilling team at work.*

pay the firm contract price. So I would hope that there would be an economic incentive for gas lines not to dump so much gas in times of warm weather in winter, but keep it moving into firm contract markets. This ought to ameliorate the effects of curtailments. A curtailment is merely a prediction of a reduced amount available. It is not a shortage. It causes stress where there is no other source of fuel or feedstock."

Dr. Tuthill observes that deregulation of the wellhead price of new interstate gas would result in an increased supply of gas over a three or four-year period.

"It will be important," he says, "to give us the time to utilize the more plentiful domestic resources like coal, and to remove us from the influence of foreign governments that control supplies on which we now depend. So it has a logistic value. We could use a lot more coal, and the question from an environmental point of view is whether it shall be delivered as gas or electricity. The value of reliability is going to become better known in economics and business. I don't think we shall go back to using coal in the home."

Dr. Tuthill says the migration of industry to natural gas-producing states is already becoming a problem, and could get much worse. He comments that Oklahoma, for example, could run out of natural gas supplies in eight years if it continued to use it up at 1973 rates. The net effect of migration, he says, is that industries could be set up in places that did not have the energy supplies for which the facilities were built.

"The situation will get worse," he concludes, "as long as people do not come to grips with the problem. It will get better starting the day they do."

J. F. Gustaferro, Deputy Director of the Commerce Department Natural Gas Task Force, lists the following sequence of steps which firms are using to come to grips with the problem:

- Audit plants to find out where natural gas is used.
- Determine if the gas is used effectively in all instances.
- Eliminate all places and uses where gas is not used effectively.
- Determine where substitutions can be made under short-term and long-term conditions, and whether in all categories where it is technologically and economically feasible it would be wise to install capabilities to substitute other sources.

Suggested substitutes

Suggestions for substitutions included: waste energy from another operation; use of energy from waste materials; coal; oil; natural gas substitutes such as propane or butane (these could be in temporary surplus or short supply); electricity, especially if generated from coal or hydro-electric power or nuclear plants; generation of the firm's own gas, either from coal or petroleum.

- Conduct studies to determine innovations that might change gas operations use currently not technologically or economically feasible to the feasible category.
- Analyze the impact of changes over a year of operation.
- Study to determine if anything could be done to change to other categories where such changes would not be technologically or economically feasible at this time, such as changes in materials or technology to get away from dependence on gas either as fuel or feedstock.

Gustaferro says that households and commercial gas users should do the various things which have been repeatedly suggested as a means of conserving gas, and that they should try to reduce use by 10 percent. These include attic insulation, insulating storm doors and windows; insuring a minimum loss of heat in house or commercial business; keeping thermostats down and wearing sweaters; keeping doors and windows and garage doors closed; seeing that furnaces are operating efficiently and cleaning or changing filters periodically; saving hot water and practicing good cooking habits, and learning to turn off the furnace pilot in summer.

The trouble with the whole thing, Gustaferro observes, is that it is necessary to "conserve by the cupful and consume by the barrelful."

The main effect of deregulating the wellhead price of new interstate gas, he says, would be to put natural gas, the cleanest of all fuels, on a par with other energy sources in the marketplace, bring demand and supply into balance, and enable energy users to decide in the marketplace whether to use gas or other fuels.

The second effect, he adds, is that it would attract capital into exploration and development of new gas sources. And, third, it would increase the availability of natural gas in the interstate market.

Gustaferro comments that added supplies of natural gas appear to be available from only three areas: Alaska, from which it will not arrive in any substantial quantity prior to 1981; from the outer continental shelf where geologists say there are good possibilities of gas; and a small amount of LNG (liquefied natural gas) from Algeria, Indonesia, and other countries. The imports of LNG, he explains, probably will never be greater than one to two-and-a-half trillion cubic feet a year, and will not arrive in any sizable quantity prior to 1977 or 1978.

"I do not expect the United States ever again," Gustaferro observes, "to have the surplus of natural gas that it had in the 1940s and 1950s, when it was flared because we didn't have the means of distributing it to the consumer."

Just the same, Commerce Department officials do not think the country is approaching the time when there will be a mandatory allocation among users of natural gas, the incomparable fuel of which so much was wasted before its value was discovered and appreciated. They think that, if a demand and supply balance can be restored with natural gas, the marketplace will determine the allocations.

Individualized Approaches Improve Productivity For Three Companies

Rewards are high for anybody with a magic formula that will:

- Strengthen a firm's competitive position in domestic and foreign markets.
- Counteract increased costs of materials, energy, supplies and labor, yet maintain wages at fair levels.
- Obtain funds needed for capital investment for modernization and expansion.
- Conserve materials and energy.

Many companies, not waiting for magic formulas, are concentrating their efforts on better utilization of resources for increased productivity.

The National Commission on Productivity and Work Quality has undertaken in-depth studies of five companies that have been particularly successful at increasing productivity. The companies were selected for their diversity—they represent both service and manufacturing. And they provide a variety of approaches to a productivity improvement program based on their individual needs and goals.

This report was undertaken by the Commission as part of its responsibility to identify and disseminate information about methods of utilizing technological and human resources to improve productivity. The studies focus on how the productivity improvement efforts were organized, what was done, how it was done, and what was accomplished.

Two of the companies in the Commission study were previously highlighted by this magazine in a series on productivity: The Detroit Edison Company (Oct. 14, 1974) and Honeywell, Inc. (Nov. 25, 1974). The others, whose stories follow, are: Beech Aircraft, Thiem Corporation and U.S. Steel.

In spite of the differences in company approaches, a general pattern has emerged that includes: a key role for the chief executive officer, involvement of other personnel at all levels, formation of an organizational unit or committee, education and training, setting of measures and goals, and periodic review and evaluation of results.

The studies indicate that the programs established by the five companies are operating successfully and are stimulating improvement in productivity. However, it is apparent that there is no such thing as "instant success" for a program. A company may find it necessary to modify its program after a trial period. And above all, time is required; and the larger the company, the longer the time to develop a program, put it into operation and begin to obtain results.

Employee's role crucial

Beech Aircraft Corporation's productivity improvement programs stress a cost-conscious attitude toward all company operations through the exchange of ideas, coupled with motivation, encouragement and individual recognition of all personnel.

The Wichita, Kan., company employs a variety of programs to increase output and reduce costs, including well-organized work simplification, materials conservation, value engineering, better utilization of commonality in design, planning and production and a continual program of communications and incentives.

Beech Aircraft specializes in the design and manufacture of private commercial planes for business and personal use, under the trade name Beechcraft. It operates six plants, five in Kansas and one in Colorado, and has 7,600 employees.

As a defense contractor in 1964, the company formalized a number of productivity improvement techniques, re-

PRODUCTION LINE—*Beech Aircraft employees work on a major subcontract job, producing airframes for Bell Helicopter. They consistently achieve 100 percent participation in Beech's Work Simplification Program, which has helped raise employee morale.*

sponding to an appeal from then President Lyndon B. Johnson to establish an affirmative program of cost reduction in the performance of defense contracts. Even then, the effort was not new to the company, as it had pursued a cost reduction program since 1953.

The concentrated effort was initiated at the highest echelon of company management, and a briefing session was held for more than 650 Beechcraft supervisors, crew chiefs, lead men and foremen on the accelerated cost reduction and cost consciousness programs at Beech. More than 15 formalized cost reduction programs were initiated in the course of the companys' effort including budget control, methods engineering, employee suggestions, producibility engineering, and work simplification.

Each of the various programs functions within an all-embracing Beechcraft Opportunity for Improvement Program, under the direction of the Controller for Cost Management. In a recent year, the savings achieved through the various productivity programs totaled $3.155 million.

Among the Beechcraft productivity improvement programs:

Work Simplification—Currently, the program depends almost entirely on improvement proposals from individual employees. However, the company is trying out a new approach under which team effort is encouraged through competition and recognition of achievement. An earlier attempt at teamwork failed when it developed that meetings were being dominated by the chairmen.

Beechcraft has found that the benefits of work simplification do not end with direct dollar savings—the improvement of employee morale is marked. Among the key elements the company has found for organizing and operating a successful program are selecting a Work Simplification Administrator (generally full time), providing full management support, publicizing the program and giving recognition, establishing a training program, and measuring effectiveness.

Suggestion Program—Monthly awards are made in amounts ranging from $10 to $50 and semiannual awards in amounts from $50 to $300 are made from among the monthly award-winning suggestions. Suggestions meriting awards cover savings in labor or materials; improvement in product, process or equipment; reduction of hazards; and reduction in paperwork.

Employees Bonanza Plan—The plan, begun in 1972, provides a money incentive for employees to participate in productivity improvement. Improvement is measured in equivalent pounds of airframe manufactured, ready for delivery, per payroll dollar. The degree of improvement is determined by comparing the current amount with that of a base period. During the first year of the Bonanza Plan, payments totaled $1.6 million and in the second year, $2.2 million. For an employee making the average wage, the bonus payment totaled $575.

Bonanza Baron Booster and Zero Defects Program—This plan involved the manufacturing personnel in one of Beech's Wichita plants. Employees at this plant are divided into teams of at least five people, which compete against each other to achieve the largest monthly productivity increases. The Zero Defects program impresses upon employees the life-and-death nature of their production. Craftsmanship is recognized by the company on a regular basis with various awards to production crews producing a large number of units without a defect.

Value Engineering—This program is designed to stimulate creative engineering and design changes in both product and parts at lowest cost. Fulltime engineers assigned to the program insure that new value engineering projects are continually initiated and put into effect, see that the necessary testing takes place before the changes are instituted, and determine that the cost estimates are favorable.

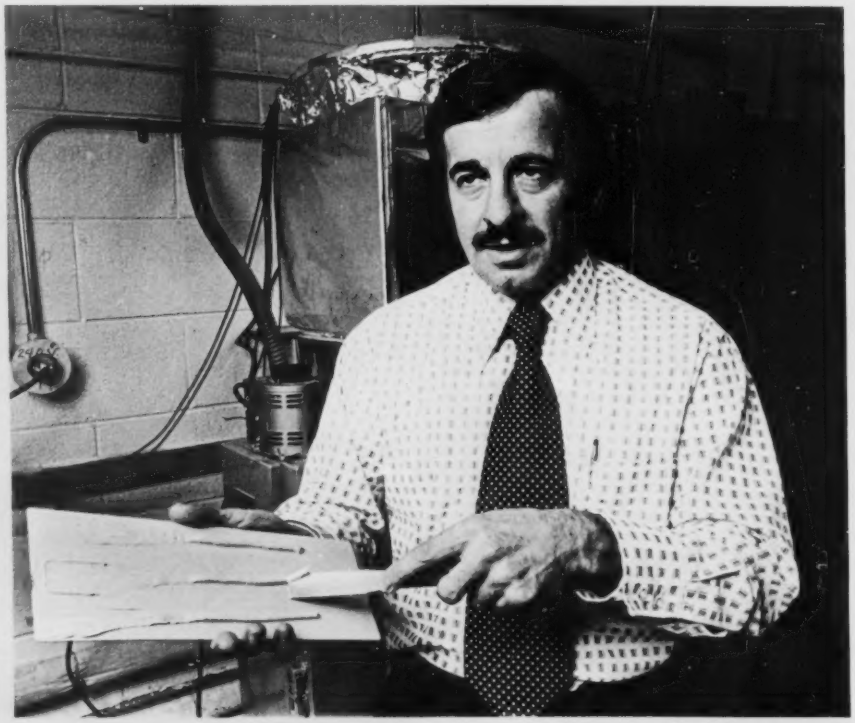
Commonality Program—This was formed to reduce the number of overall parts required to produce the complete line of the company's aircraft. The group is made up of full-time engineers, tool planners and production planners. Savings come from both direct and indirect man-hour savings. To initiate the program, each major assembly was broken down to specific subassemblies, which were then studied to see what parts and assemblies could be made common between models. Ten such changes are already in production, and others have been approved.

Materials Conservation—This activity is the responsibility of the Supplies Control and Conservation Department, which has permission to enter any part of the company plants and ferret out wasteful practices or develop better ways of processing or handling materials. Conservation personnel join with manufacturing workers in reviewing all scrap to be sure satisfactory rework is not possible, and to prevent needless repetition. This staff also develops steps to protect parts between fabrication areas and the end product.

Each of these programs is designed to meet specific problems, but at the same time interlock to improve both quality and output.

Emphasis on R & D

The approach followed by the Thiem Corporation of Milwaukee to increase productivity is a composite of: management-by-objectives, an intensive research and development program, an employee relations policy based on the concept that employees are the company's most valuable asset, and a profit sharing and retirement plan that enables employees to



R & D PAYS OFF—*James Thompson, research and development director of Thiem Corporation's Thiemite Division, runs a sample test on a specialty chemical product his division developed. Thiem stresses individual initiative, good management-employee relations, profit-sharing and research and development as contributing to its successful productivity increase.*

share directly in the company's success.

Thiem is a medium-size industrial chemicals company making some 200 formulated, consumable products used in the manufacture of automobiles, appliances, foundry products and others.

Thiem has five U.S. plants located in Wisconsin, Illinois and Pennsylvania, and one in Canada, and has licensees in England, France, Italy and Germany to which product-concentrates are shipped for finished product formulation and sale.

Thiem's management emphasizes the concept of "properly channeled individual initiative" by operating each of its four divisions as a separate profit center. Divisional forecasts and budgets are consolidated into a corporate profit plan which fully details the measures required to obtain corporate objectives.

Darold W. Thiem, company founder and now Chairman of the Board, calls research and development "a key to the success of the firm." Ten percent of Thiem employees work in R & D.

Thiem's research and development team develops new and improved products, adapts product formulas when raw materials are in short supply or costly, assists in problem-solving for customers, and develops product applications that help customers meet health and safety standards, reduce pollution, save energy and lower production costs.

New product development has diversified the product line and expanded the company's market. Product improvement has enabled greater market penetration. Economies of scale, both in production and marketing, have been the result.

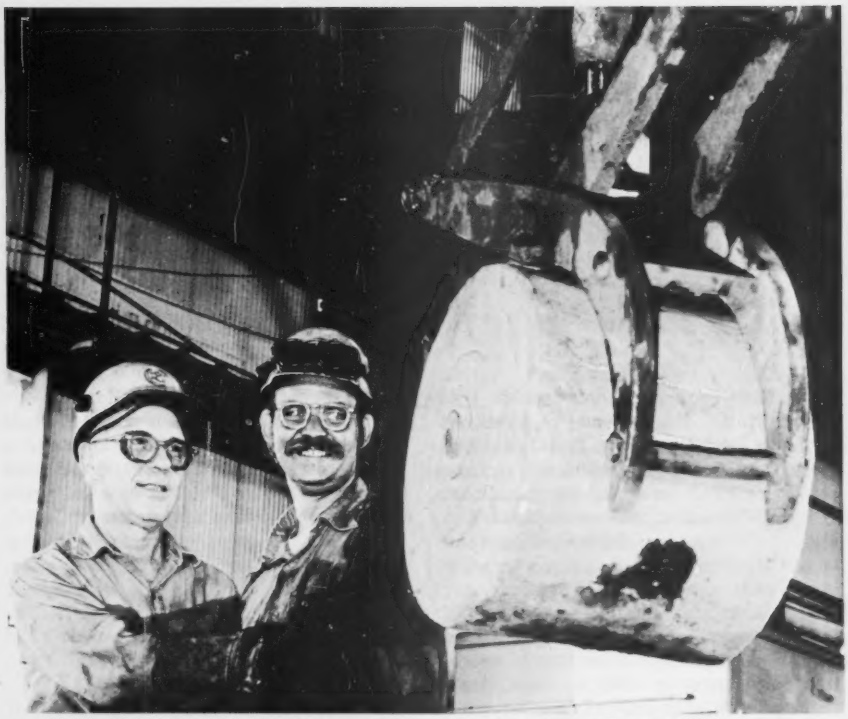
As part of its employee relations, company management maintains an open door policy. Bimonthly meetings are held at each plant for all employees, plant supervisors, and one or more company officers. These meetings provide an opportunity for two-way communication and for open discussion of problems. Employee representatives participate in setting agendas for these meetings.

The company's profit sharing and retirement plan has been in effect since 1953. The plan's success to date is affirmed by the record, which shows that the company has made maximum payments (15 percent of total employee compensation) to the fund in 20 of the 22 years of its existence.

Labor-management cooperation

U.S. Steel Corporation's productivity effort is based on the mutuality of interest between labor and management in increased output and lower costs, and is supported by an agreement with the United Steelworkers of America (AFL-CIO) to cooperate in making the company plants more productive.

The company developed a major campaign to emphasize to the workforce the need for productivity improvement both to insure their jobs and maintain their rate of pay. Many U.S. Steel plants have reported reductions in tardiness and absenteeism, gains in preventive maintenance, improvement in product quality and an increasing awareness of costs since the program was introduced.



A $1,162 IDEA—*John Gona (left) and James Bagnell (right) of U.S. Steel's Homestead, Pa. plant, look at their recently installed suggestion. Their idea, shared with welder Gene Starcher, involved an improvement to the test tongs that prevents jamming.*

U.S. Steel is the country's largest steel producer, with sales amounting to $9.3 billion last year, and some 185,000 employees.

One reason U.S. Steel was able to develop the cooperative effort between labor and management to increase productivity was that the decade of the 1960s saw imports take a rising share of domestic steel markets, resulting in a loss of jobs and creating concern over the domestic industry's ability to compete. The impact of inflation added to the problem.

It was against this backdrop that the steel industry and the United Steelworkers union negotiated a contract in 1971 that included a landmark feature—agreement to establish a mechanism of continuing discussion between labor and management on productivity ideas. The intention was to enable both sides to talk over, develop and implement ways to make steel plants in this country more competitive.

Soon thereafter productivity committees were organized at the plants, and they presently number more than 100. Each committee meets at least once a month.

The committees are advisory, charged with advising plant management on ways and means of improving productivity and developing recommendations for stimulating growth.

The committees discuss: maximizing use of production time and facilities; reducing equipment breakdowns and delays; improving quality; reducing need for reprocessing products; eliminating waste of materials, supplies and equipment; reducing excessive overtime; boosting employees' morale; improving safety experience; and focusing employee awareness on the problems of productivity and those posed by the threat of foreign competition.

U.S. Steel has organized an intensive communications program for its employees, with a specially prepared motion picture explaining productivity. Following showings of the film, question and answer sessions are held.

Other productivity improvement activities include in-plant publicity, intra-plant competition, recognition of the families of workers who are top producers, and recognition of outstanding achievers among women.

To spread the productivity message outside the company, U.S. Steel uses all segments of the mass media.

These case histories are just three examples of methods that have proven successful for improving productivity. In each case, the winning combination was strong management support, good labor cooperation and well-defined objectives.

Standards Prove Their Worth In U.S. Fight Against Inflation

Standards have long since proven their worth to this country's industries. Without established standards, it is almost certain that American industry could not have developed the capacity to serve the massive and widespread U.S. market. Without the frames of reference which standards provide, any attempt to serve such a market would almost certainly have dissolved into chaos.

Only recently, however, have U.S. manufacturers realized that standards are an invaluable asset in still another area—helping to offset the effects of inflation.

The driving force behind standards has long been economic. The very earliest standards were those used by business people in construction and trade. In fact, the Old Testament relates that "a false balance is an abomination to the Lord, but a just weight is His delight." Records of engineering standards go back many centuries. In the 14th century, Venice ordered that all arrows should be made to fit any bow then in use, and in the 16th century the King of England appointed a commission to investigate the lack of uniformity in knights' armor. The commission reported that the lack of standardization "do put many of our subjects to a great deal of unnecessary expense." Thus the king decreed that a single fashion of armor be used throughout the kingdom.

Certainly the presence of standards has an economic impact on man and his society. But what about a lack of standards?

In 1904 a fire broke out in Baltimore which raged unchecked for nearly two days, destroying 1,526 buildings and all electric light, telegraph, telephone, and power facilities in an area of more than 70 city blocks. Where were the firemen? They had gathered from as far away as New York, Philadelphia, and Washington. However, few if any of their hose couplings matched and those that did didn't match the fire hydrants.

A subsequent investigation by the National Bureau of Standards uncovered more than 600 sizes and variations in fire hose couplings. In 1905, the National Fire Protection Association adopted a national standard for hose coupling.

In an effort to provide a national focal point for standards in this country, a federal standards laboratory came into being in 1901. This laboratory, now known as the National Bureau of Standards (NBS), was charged with the responsibility for the custody, maintenance, and development of the nation's standards of measurement. It was also charged with devising the means and methods for making measurements consistent with those standards.

The Bureau has become an excellent source of assistance to industry. Work at the Bureau has ranged from the first atomic clock, which was built in 1949 and which led to a redefinition of the standard of time, to the recent development of standards on the flammability of children's sleepwear.

Standards, as known in this country and as used every day, come from a number of different places and affect a large part of the American economy. Standards which industry use are usually referred to as engineering standards. They deal with manufacturing, testing, measurement practices and conventions, properties and performance of materials, and performance characteristics. Such standards have increased production runs, reduced inventory costs and simplified sales and merchandise plans.

Essential ingredients

The essential ingredients for any standard are: a set of alternatives; a method for reaching agreement; and a group which agrees to abide by the selection. Today there are more than 400 organizations which are actively involved in writing or sponsoring voluntary standards. These groups have created more than 20,000 standards and are developing new ones at the rate of about 2,000 a year.

How do voluntary engineering standards help to fight inflation?

One of the oldest NBS programs is that of Standard Reference Materials. By definition, SRMs are materials whose chemical and physical properties have been certified by NBS and which are sold for use in standard measuring techniques. The first SRM, which was sold in 1906, was a certified cast iron composition. Today the Bureau offers more than 900 different SRM's and in 1974 over 32,000 individual items were sold.

SRM's have three possible uses. They may be used as "control" materials being analyzed simultaneously with unknown materials; they may be used as materials to calibrate an instrumentation; or they may be used as "known materials" in the development of new techniques or instrumentation. In each instance, however, the SRM provides the results that the analyst should obtain. Hence, the analyst is provided with the means for a critical examination of his entire measurement system.

Industrial benefits

These SRM's offer a number of cost-cutting benefits for industry. They can be a primary resource for instituting quality control. They can facilitate the exchange of goods by verifying the composition of the goods—purchasers would not want to buy steel without some assurance of its composition.

SRM's can also be used to determine performance characteristics. All of these uses provide tangible dollar benefits—and help combat the effects of inflation.

As a secondary result of the better quality control and better performance characteristics which standards help to provide, products need less repair work, firms need not maintain as large a repair staff, and fewer complaint letters need answering. It also stands to reason that firms should have fewer liability suits.

Industry assistance is the critical factor in developing any SRM. In many cases, NBS contracts with industry for the preparation of a basic material. One steel sample, that is now an SRM, called for controlled amounts of C, Mn, P, S, Si, Cu, Ni, and Cr—a test of any foundry's skill. Then it is necessary to provide a careful measurement of the material—to assure homogeneity and arrive at certification.

Interests as diverse as the glass industry and medicine use SRM's to calibrate and evaluate measurement instruments and

test methods. More than 50 SRM's are available to the glass industry. These include SRM's for glass viscosity fixpoints, relative stress optical coefficients, thermal expansion standards, chemical composition standards, and sizing standards.

In medicine, NBS has 18 SRM's available for clinical use with the development of others underway. Some of the clinical SRM's include cholesterol, uric acid, creatine, calcium carbonate, bilirubin, sodium chloride, and lithium carbonate.

Another inflation fighter is NBS's collaborative reference program for paper and board test instruments, to provide baseline data to help maintain the quality of corrugated shipping containers used in interstate commerce. A cooperative program sponsored by the Fourdrinier Kraft Board Institute in cooperation with the pulp and paper industry. A collaborative reference program provides a mechanism whereby a number of testing laboratories may periodically check the accuracy of their operations and utilize the baseline data for voluntary standardizing activities.

For example, one of these reference programs concerns kraft board. The program controls the level of test results and the uniformity of production of more than 90 percent of this country's liner board and corrugating medium. The annual value of the production of such containers is estimated at $4 billion. Failure to control their uniformity would increase production costs by about 15 percent. In addition, the nation would be increasing its utilization of a scarce natural fiber by about 10 percent and would also be increasing individual shipping costs.

Specifically, this program can reduce calibration costs, check on both instrument and operator, save on production costs, provide documentation of testing capabilities, and allow a firm to compare the level and precision of its testing with that of its competition. The program offers a number of testing programs, including the Mullen burst of lineboard and the Concorda test of medium and Tensile breaking strength of packaging paper.

Each participant receives test samples, including provisional range results, on a regular basis. The samples provided by NBS are tested in the firm's laboratory, following the instructions provided for each test method. The complete check of a single instrument takes no more than 30 minutes. All results are sent to NBS for analysis. Participants then regularly receive two reports—a brief report showing industry mean values and the deviation of their laboratory's results, and a longer summary report showing the results of all participating laboratories. Each laboratory is identified by code so that confidentiality is maintained.

This round robin testing program has been very successful in terms of dollar savings to the 102 laboratories currently participating.

A very different type of cooperative opportunity to benefit industry is the Research Associate Program. Under this arrangement, scientists and engineers from industry, trade and professional organizations work at NBS under the sponsorship of their employers. The Research Associate comes to the Bureau to work on a project of mutual interest. The benefit and dollar saving to industry comes through the availability of NBS equipment and close technical interaction with NBS scientists.

POOR CONNECTIONS—*A 1904 fire in Baltimore attracted firemen and firefighting equipment from as far away as New York, but they had to sit and watch because few of their hose couplings matched, and those that did match didn't fit the hydrants. In 1905, the National Fire Protection Assn. adopted a national standard for hose couplings.*

Nuts and bolts publication

Last year Jack Robertson, of Dow Chemical, joined the Bureau as a Research Associate. He worked with a team of NBS engineers to develop an energy conservation guide tailored to the needs of small and medium-sized industries. The idea was to provide a nuts-and-bolts type of publication, one with documented evidence of what to do, how to do it, and how much savings would result. Approximately 200 energy saving ideas described, plus a number of case histories showing dollar savings achieved.

What about Dow and Jack Robertson? Was it a help to them? According to Robertson, "I've been working with energy conservation for 18 months and almost every day I learn something new—and that's only been in one industry. Now we have the cross-fertilization of many ideas from many industries."

Currently there are 67 Research Associates at the Bureau representing six companies and 15 trade and professional associations.

Commerce's Voluntary Energy Conservation Labeling Program for household appliances, administered by NBS, pro-

vides consumers with information concerning energy consumption of a whole range of household appliances. Today, 90 percent of all the room air conditioners being produced in the United States are labeled so that the consumer will know both the energy efficiency rating and how it compares to products of similar size on the market. In this program the Bureau has developed specifications, or standards, concerning the labeling requirements and the test methods to be used for each type of product. This work is done in cooperation with both manufacturers and retailers, with consumers and with interested federal agencies.

Automation technology had its beginning with numerically-controlled machine tools and the APT (Automatically Programmed Tool) programming language. The early years were rocky and they probably experienced as many failures as successes. But they did learn one very important fact: the need for standardization and the recognition of the total integrated system.

NBS initiated a program in automation technology about two years ago in response to the national interest in enhancing productivity.

It is becoming increasingly clear that this country is finally going metric. Many industrial giants—IBM, Rockwell International, General Motors—are already in the process of converting to metric usage. W. F. Rockwell, Chairman of Rockwell International Corporation, stated in a recent article, "Our preliminary studies indicated the total metrication cost will amount to one percent of one year's sales. This cost, spread out over many years, will almost certainly be in the 'noise level' of company operations." So it appears that metric conversion will not be the economic disaster many had feared, rather it should present opportunities as an economic plus.

Absolutely essential

It is now not only desirable but absolutely essential that firms look at the entire packaging, containerization and distribution system. Going metric offers firms a special opportunity to look at their total system. Currently many products are ordered in units of twelve; with metrication this may be changed to ordering in tens. Package and container sizes may be changed to reflect the new metric sizes. This type of change will need industry-wide cooperation to review the sizes and shapes of various containers and determine what changes would permit conformity with the metric system and at the same time provide distribution economies.

Here again, NBS can help. Voluntary standard-setting procedures for industry groups have been developed under the Fair Packaging and Labeling Act. Under these procedures industry groups could convene to discuss possible actions to be taken, their long-range effect on the total industry and the costs that would be incurred through implementation.

The Consumer Laws and Regulations Program of the Office of Weights and Measures is responsible for this area of standards development.

Several industries have already taken action in the metric area. For the most part, though, these have been individual actions by individual firms. However, the Pressure Sensitive Tape Council has come to NBS with a proposed packaging quantity standard covering metric sizes for the width and length of pressure sensitive tape. Should this be accepted, it will be the first voluntary industry group standard in metric.

Last year, the National Conference on Weights and Measures adopted a new section to the Model State Packaging and Labeling Regulation. The new section was established to provide uniformity in the use of metric system symbols. Despite the fact that the nation's children are now learning metric in school, the average adult consumer still needs to be educated about the system. Much of what they learn will be through purchases.

The Metric Information Office at the Bureau of Standards is currently responding to about 1,000 requests a week for metric information. During the Metric Study conducted by the Bureau, a survey was taken of public knowledge and attitudes about metric. This survey showed that the more people knew about metric, the more they approved its adoption. For example, 74 percent of those who knew a great deal about metric favored it.

The passage of metric legislation is going to make literally thousands of standards now on the books obsolete. However, this country has already learned too much about the benefits of standardization to let it fall into disarray.

Voluntary Product Standards are also effective in helping to combat inflation.

The development of a standard for carbonated soft drink bottles for instance, is being jointly sponsored by the Glass Container Manufacturers Institute (GCMI) and the National Soft Drink Association (NSDA). Their action to initiate NBS processing of a proposed standard is typical—industry leaders and trade associations have been invoking the machinery for five and a half decades, ever since voluntary standardization procedures under Commerce Department auspices were first established.

Current VPS procedures call for protection of the public interest by requiring that all concerned—producers, distributors, users or consumers, and groups with a general interest—be represented during the development of a standard. Among the active reviewers of the proposed bottle standard, therefore, are representatives of Good Housekeeping Institute, Consumers Union, the Consumer Product Safety Commission and the Center for Concerned Engineering.

Consensus system

Standards processed through the VPS system are consensus standards. Even though they are not mandatory, they are influential in the market-place because they help to improve buyer-seller relationships through better and safer product performance and simplified practices. To accept the GCMI/NSDA move for processing the carbonated soft drink bottle standard, the Bureau under VPS procedures first had to determine that the standard would be national in scope, consistent with the public interest, of industry-wide appeal, and would not (or could not) be developed by any private standardizing body.

Thirty years ago, a consultant to the Secretary of Commerce predicted that coming decades would bring a rising tide of consumerism and new demands for facts on the performance of consumer products. This trend, he noted prophetically, "will call for more intensive, more skillful cultivation of the whole standards field. . . ."

It is happening, just as predicted. The VPS system is an important element in helping to upgrade the quality of American life by establishing national norms for products as they affect comfort, safety, health, morale and day-to-day functioning.

And besides providing a fair set of rules which all manufacturers can abide by and depend on, they also cut back on production and repair costs in an inflationary era.

Odyssey Of A VPS

Every voluntary product standard begins as a tentative standard, usually submitted by an initiating trade association or industry group. Assigned to a standard coordinator, the draft standard undergoes an exhaustive series of reviews, circulations for comment, redrafting and reredrafting, balloting and reballoting. After all substantive objections are resolved and a consensus achieved (based on at least 75 percent approval among several voting categories averaged together), the document, with approval by the NBS Director, is promulgated by the Bureau as a Voluntary Product Standard.

For information and assistance related to VPS procedures, contact: Standards Development Services Section, Engineering and Product Standards Division, NBS Washington, D.C. 20234.

Energy Management Digest

PETROLEUM EXPORT CURBS RETAINED . . . Petroleum export controls will continue unchanged at least through September and perhaps for the balance of the year, according to Secretary of Commerce Rogers C. B. Morton. Export controls are being continued to protect the domestic economy from a potentially excessive drain of petroleum. This action is also designed to reduce the possibility of serious inflationary impact from foreign demand. Morton said he would decide on any further continuation by mid-September.

WINDOWS WANTED . . . At a time when architects and engineers are considering less window space in new buildings as an energy conservation measure, the National Bureau of Standards offers a word of caution: human beings seem to need the light, view and feeling of spaciousness which windows provide. Perhaps the most highly valued benefit provided by a window is the provision of a view, or some contact with the outside world, NBS reports. But windows and energy conservation are not necessarily incompatible. Reduced window size, better insulation, double and triple glazing, shading devices, and special types of glass may achieve energy conservation without sacrificing the human desire for a "view."

SIDE EFFECT . . . One unpleasant side effect of a national goal of a 20 percent reduction in energy consumption by major appliances by 1980 will probably be higher prices for the appliances themselves. Increasing their efficiency will require engineering changes,added tooling costs and realigned production costs. Prices of high-efficiency air conditioners, the first appliances to bear labels indicating their energy costs, have gone up by $10 to $100, depending on their size. Appliance industry sources indicate that the added costs will be made up in two or three years of lower energy costs through using the more efficient products.

SYNTHETIC FUELS . . . The Energy Research and Development Administration has selected four firms to participate in its program to produce synthetic fuels from coal. Battelle-Columbus Labs of Columbus, Ohio, Lummus Co. of Bloomfield, N.J., Exxon Research and Engineering of Linden, N.J., and Stanford Research Institute of Menlo Park, Calif., will focus on what are called the Synthane and Hydrane coal gasification processes being developed at ERDA's Pittsburgh Energy Research Center. A $15 million Synthane prototype pilot plant was recently put into operation near the Pittsburgh Center. The plant is designed to convert 75 tons of coal per day into one million cubic feet of methane, a synthetic gas that can be used interchangeably with natural gas.

SAFETY RESEARCH ACCORD . . . The U.S. Nuclear Regulatory Commission and the West German Ministry for Research and Technology have signed a four-year agreement calling for German participation and technical exchange in reactor safety research work on the NRC's Loss of Fluid Test Program. Up to three German technical experts will be assigned to the LOFT Program. In return, Germany will pay $1 million each year and provide NRC with all results obtained. The LOFT facility is operated by Aerojet Nuclear Co. at the U.S. Government's Idaho National Engineering Lab near Idaho Falls. The agreement is the first of several international nuclear safety research accords being negotiated through the International Energy Agency.

PAMPHLETS IN SPANISH...Two popular publications on energy conservation from Commerce's National Bureau of Standards are now available in Spanish. "Energy Efficiency in Room Air Conditioners" (Indice de Eficiencia de la Electricdad en Unidades de Acondicionamiento de Aire, Index Number 082S) provides information to assist consumers in choosing room air conditioners on the basis of energy efficiency and cooling capacity. It also answers questions on household wiring, cooling requirements of individual rooms, cost of electricity and the relationship of electricity to purchase price. "Home Energy Savings Tips from NBS" (Sugerencias de la NBS Para Ahorrar Energia en el Hogar, Index Number 086S) discusses insulation for winter and summer and outlines steps for conserving energy in appliance use. Single copies of both are available at no charge from the Consumer Information Center, Pueblo, Colorado 81009. Specify the index number.

IN A NUTSHELL...Two recently-released booklets in Mobil's series on U.S. energy issues cover Alternate Energy Sources and The Energy Crisis: What Went Wrong? The ten and thirteen-page pamphlets are designed to contribute to a national energy debate "in the hope that 1975 will be a year of action."

Voluntary Program's Success Probably Ends Need For Appliance Energy Legislation

Fifty seven major appliance manufacturers have agreed to support a voluntary program aimed at achieving a 20 percent average reduction in the energy consumption of new household appliances by 1980. And in the process they have probably saved themselves the inconvenience of legislation requiring them to do the same thing.

These firms account for 93 percent of the retail sales of the appliances covered in the Commerce Department's Voluntary Program for Appliance Efficiency.

The Voluntary Program for Appliance Efficiency was established by President Ford in a supplement to his Jan. 15 State of the Union Message. The President called for a 20 percent average reduction in energy consumption of all major appliances by 1980, and for agreements by major appliance manufacturers to comply with the goals. If agreement could not be obtained in six months, President Ford said he would request legislation to establish mandatory appliance efficiency standards.

"Because of the favorable and timely industry response to the President's challenge, our program is moving forward effectively without the need for legislation establishing mandatory appliance efficiency standards," Assistant Secretary of Commerce Betsy Ancker-Johnson stated.

The Assistant Secretary for Science and Technology said the 57 companies supporting the program represent all categories of appliances for which energy efficiency goals are being set. Electric appliances in the program are room air conditioners, refrigerators, combination refrigerator-freezers, freezers, clothes washers, dishwashers, and television receivers (black and white as well as color). Appliances that use either gas or electricity are water heaters, clothes dryers, and kitchen ranges and ovens.

More than 51 million units of these appliances were sold in 1974 with a retail sales value of $12.8 billion. The total primary energy consumption of all these major appliances in use today is estimated at the equivalent of 2.7 million barrels of oil per day.

Proposed efficiency goals (see accompanying table) and programs to attain these goals have been assigned to 13 categories of appliances. These have been published in the *Federal Register* for public comment.

Final goals for specific appliances may be higher or lower than the average, depending on technical and economic feasibility. (The base year from which improvements in energy efficiency are to be measured is 1972.) These final goals are now being prepared for publication in the *Federal Register* by Commerce's National Bureau of Standards, which supplies technical support for the program.

In attaining the final goals, each company will formulate its own plan, which may include upgrading the entire line or a portion of the line, eliminating less efficient models or modifying production mix.

"As in any voluntary program, subsequent economic or other events may cause some participants to withdraw," Dr. Ancker-Johnson added. "If this should occur to an extent that would jeopardize our overall goal, we will have to reconsider the necessity for a mandatory program, and will advise the President of our recommendation."

The proposed goals and programs were developed as a result of comments and suggestions received by the Department of Commerce in response to a March 3, 1975, *Federal Register* notice. Meetings with appliance manufacturers to solicit comments and suggestions also were held at NBS.

Other agencies participating in the Voluntary Program for Appliance Efficiency include the Federal Energy Administration and the Office of the Special Assistant for Consumer Affairs.

Proposed Energy Efficiency Goals

Product Category	*Proposed Energy Efficiency Gain (%)*	*Federal Register Notice*
Room air conditioners	22	June 3
Refrigerators & refrigerator-freezers	30	June 23
Freezers	25	June 23
Water heaters, gas	25	June 23
Water heaters, electric	9	June 23
Ranges, gas	30	July 10
Ranges, electric	10	July 9
Clothes dryers, gas	12	July 9
Clothes dryers, electric	6	July 9
Clothes washers	10	July 10
Dishwashers	18	July 10
Television receivers, monochrome	48	July 8
Television receivers, color	42	July 8

New Committee Advises Census On Spanish-Americans

The first meeting of the Bureau of the Census' new Advisory Committee on the Spanish Origin Population for the 1980 Census was held recently.

The 21-member committee was established to provide an organized and continuing channel of communication between the Spanish origin population of the United States and the Bureau. From the knowledge and insight of committee members, the Bureau hopes to develop new procedures and techniques to improve the quality and usefulness of 1980 census statistics for the Spanish origin population.

Capital Crunch Hits Industry; Steel Alone Needs $26 Billion

"The availability of capital to permit the level of investment required for America's economic growth during the remainder of the 1970s is becoming a problem of concern to us all."

This was the opening statement of Travis E. Reed, Assistant Secretary of Commerce for Domestic and International Business, at a news conference early this month on the capacity and capital needs of the domestic steel industry for the next five years.

The study, made by the Industrial Economics Research Institute of Fordham University, estimated that to meet projected steel demand by 1980, the industry will need $26.3 billion in capital by that year, or $5.3 billion a year. This would be about $2.2 billion more than the cash flow on an industry-wide basis available in 1974, when demand was high and the industry had its most profitable year.

Reed emphasized that the tax incentive proposals submitted to Congress by President Ford are needed to make investment more attractive and to encourage new capital formation. The President recommended to Congress a 12 percent investment tax credit for 1975 and 1976 and a 10 percent credit for 1977 and thereafter. Congress enacted, effective at the end of March, a 10 percent investment tax credit for 1975 and 1976, leaving the question open as to what shall be done for 1977 and thereafter.

"We at Commerce," Reed said, "are especially concerned about the ability of individual industries to make the investment necessary to expand or replace capacity."

The Rev. William T. Hogan, S. J., head of the Fordham University Industrial Economics Research Institute, responded to a question at the news conference that a 12 percent investment tax credit as a permanent law would be very helpful to the steel industry in meeting its capital needs.

'On again, off again'

"One of the difficulties with the investment tax credit," he said, has been its 'off again, on again' existence, and a number of people have thought that it was a means of fine-tuning the economy, to turn this up and down. Unfortunately, this is distressing for somebody that has to plan for a long-term capital commitment of say, two, three or more years."

Asked if he thought the situation would reach a point where the Federal Government would have to subsidize the steel industry's capital needs, he replied:

"I would think that if the investment tax credit went in at 12 percent, and means were developed to make equity financing more attractive through taxation, the effect would be a substantial move toward solving the problem, without any further need."

However, he said in response to another question that, while equity financing is not a very viable source of capital now, perhaps its potential would improve in the future. Under the existing circumstances, he said, the steel firms are largely confined to a borrowing position.

Breakdown of needs

In terms of 1975 dollars, a breakdown of the results of the study as to capital needs may be summarized as follows:

Brownfield Site Expansion: $7.98 billion for 19 million tons of capacity. While expansion of existing facilities, the Fordham report said, were found to cost as much as $535 per annual ton of capacity, they currently average $420, allowing for raw materials and pollution control requirements.

Greenfield Site Expansion: $4.16 billion for six million tons of capacity. Aside from the 19 million tons required to expand existing facilities, the report explained, six million tons would have to come through construction of new sites. Of this, the report added, four million tons likely would be situated in a fully integrated multiproduct installation, which currently costs $940 per annual ton of capacity, including allowance for raw materials and pollution control facilities. The remaining two million tons would be achieved through construction of new mini-mills, which currently cost $200 per annual ton. The report estimated that a 25 million ton expansion in capacity is required.

The expression "Brownfield site" applies to expansion of existing facilities, and "Greenfield site" to entirely new plant locations.

Capacity Replacement: $6.66 billion for 18 million tons of capacity. This is based on replacement costs averaging $370 per annual ton of capacity.

Pollution Control: Aside from the need to equip new capacity installations with pollution control equipment, the report said, it is anticipated that the steel industry will have to find an additional $4.40 billion in capital outlays for environmental purposes during the 1975-80 period, primarily to install air and water pollution controls on facilities already in place.

Working Capital and Contingencies: The report said the industry's needs for working capital and contingency allowances are expected to total $1.40 billion and $1.65 billion, respectively, over the next five years.

"Earnings are the key factor, since depreciation will accomplish just so much, and there are strict limits to the feasibility of debt financing," the report notes.

While 1973 and 1974 were record years, the report said, the first half of 1975 witnessed a significant drop in raw steel production, shipments, sales and profits. "Consequently," the report added, "cash flow will be less in the current year than in 1974, but hopefully not too much less than in 1973."

While the financial downturn thus far in 1975, the report said, has had no effect on future expansion plans of steel companies, and no major cancellations of capital projects have been announced, the decline in income "could eventually slow down the rate of expansion and stretch it out over a somewhat longer period."

"Fortunately," the report added, "the steel market outlook for 1976 is encouraging and if 1977 is also a strong year for the industry, the incentive for increased investment will be enhanced accordingly."

The report estimated that annual raw steel capacity would have to be increased from the present 160 million tons to 185 million tons to meet the needs of the nation's economy in 1980.

"The long-run picture for steel points up the need for capacity expansion now. Our analysis indicates that the current softness in steel demand will give way to renewed pressure on capacity in the future. Further, the likelihood that the world steel demand could call for one billion tons of raw steel output by 1980 forces us to analyze domestic capacity within the context of world supply and demand."

Possible 1980 shortfall

Fr. Hogan said that world steel capacity could be 70 million to 100 million tons short by 1980.

The report said that over a period of about 15 years, starting in the late 1950s, the steel industry's financial condition and investment environment were affected negatively by the following major factors:

Market erosion due to imports; escalating domestic costs in excess of final product price; inadequate depreciation and the gradual obsolescence of capital equipment coupled with inadequate replacement due to an escalating cost structure; and the industry's movement toward diversification into unrelated industrial ventures which required significant capital outlays.

Copies of the report, which are in limited supply, are available on request from the Iron and Steel Program, Materials Division, Bureau of Domestic Commerce, Domestic and International Business Administration, U.S. Department of Commerce, Washington, D. C. 20230.

MEMORANDUM OF UNDERSTANDING—*Norbert T. Tieman, Federal Highway Administrator (left), and Samuel J. Cornelius, Deputy Director of Commerce's Office of Minority Business Enterprise, recently signed a "memorandum of understanding" on ways to increase minority participation in federal-aid contracting programs. Under the agreement, capable minority construction contractors, suppliers and others will be identified and assisted.*

Unit To Service Firms Providing Venture Capital For Minorities

The MESBIC concept is proving so successful that a national organization has been founded to coordinate and promote their activities nationwide.

MESBICs (Minority Enterprise Small Business Investment Companies) are privately funded venture capital companies licensed by the Small Business Administration. They specialize in financing businesses owned by socially or economically disadvantaged individuals.

Commerce's Office of Minority Business Enterprise has awarded a one-year contract to the American Association of MESBICs (AAMESBIC), a San Francisco-based national trade group.

Under the $75,000 OMBE award, AAMESBIC will take steps to strengthen the operations of existing MESBICs and to encourage the founding of new ones. Its services will be offered on a national basis to provide support to the 76 MESBICs currently in operation in 27 states, the District of Columbia and Puerto Rico.

Total paid-in private capitalization of the 76 MESBICs stands at $37 million. These private investments can be matched with low cost government loans to provide a basic pool of over $90 million in direct assistance to firms owned by minority businessmen. In turn, these investments can trigger as much as $500 million in financing from conventional sources.

Emphasizing the vital role of MESBICs in the minority business development process, OMBE Director Alex Armendaris noted, "Access to venture or expansion capital is a must for minority entrepreneurs. The MESBIC program is one of the ways the Federal Government encourages private investors to assist disadvantaged Americans to own and develop their own business firms."

OMBE, through its Capital Development Branch, markets the MESBIC program by urging banks, community groups, corporations, religious organizations and individuals to form MESBICs and to profit themselves while financing minority firms.

After a MESBIC is licensed by the Small Business Administration, the OMBE Capital Development unit continues to provide technical assistance to its officers and staff.

The Office of Minority Business Enterprise was established in the Department of Commerce in 1969 to serve as the coordinating agency in the Federal Government for minority business affairs and to work with the private sector in developing minority-owned business enterprise.

Manual Aids Minority Firms Win Share Of Government Contracts

A manual on government contracting, designed especially for minority-owned companies, is now available.

The 135-page document, entitled *Federal Procurement and Contracting Manual for Minority Entrepreneurs,* is published by Commerce's Office of Minority Business Enterprise (OMBE). It is an independent expert's general introduction to government contracting, and is aimed at minority entrepreneurs with limited recent experience in working with governments.

The manual was written by James E. Cravens, small business specialist with the Naval Regional Procurement Office at Long Beach, California. It was initially used as a training program sponsored by the Los Angeles Federal Executive Board, Minority Business Opportunity Committee and OMBE.

"Government contracting is often complex," says OMBE Director Alex Armendaris. "The aim of this manual is to explain such contracting in simple, practical terms so that a busy contractor can apply it and find it helpful."

The manual deals with procurement, bids and proposals, pricing, types of contracts and contracts administration. It warns that, while reflective of ground rules of 1975, laws, rules and conditions change rapidly in the current era.

"The national interest requires increased involvement of minority business enterprise in federal procurement programs," Armendaris comments. "Minority-owned firms will find governments cooperative, but they must avail themselves of all available information."

The manual will be placed in all OMBE regional and field offices for examination. OMBE regional offices are located in Washington, D.C., Atlanta, Dallas, Chicago, New York and San Francisco.

Single copies of the document may be obtained by writing OMBE Information Service, Office of Minority Business Enterprise, U.S. Department of Commerce, 14th and Constitution Avenue NW., Washington, D.C. 20230.

Monthly Brochure Compiles Treasury Officials' Speeches

The U.S. Department of the Treasury has begun issuing a monthly compilation of speeches, testimony and other statements by Treasury officials on economic issues facing the nation.

The purpose of the new publication, *Treasury Papers,* is to inform the public more adequately of the Department's

position and actions, and to encourage greater public participation in the development and application of government economic policies.

The publication's introduction, by Treasury Secretary William Simon, cites the decisions that are made all the time affecting jobs, wages, prices, living standards, production, profits, economic security and America's competitive position in world markets. The intention of *Treasury Papers* is to provide background material to those in positions to make those decisions.

Members of the public having a use for this information can request a subscription on a complimentary basis from *Treasury Papers*, Room 2324, Main Treasury, 15th St. and Pennsylvania Ave. NW., Washington, D.C. 20220.

California Has Largest Number Of Minority Firms

Minority businesses in the United States totaled 381,935 in 1972 and had $16.6 billion in receipts that year, according to the fourth and final report in a special series on minority enterprise from Commerce's Bureau of the Census.

The statistics are from the 1972 Economic Censuses, regular five-year canvasses of the nation's economic activity by the Bureau. Earlier reports in the series covered black enterprises, Spanish-origin enterprises and enterprises owned by Asian Americans, American Indians, and other minorities.

The summary report shows that, of the 1972 total of minority firms 75,415 (20 percent of the total) were employer firms, and they accounted for $12.1 billion in receipts. The average total of receipts from employer firms was $160,000 in 1972 compared with a $15,000 average for non-employer firms.

In California there were 73,502 minority-owned firms with gross receipts of $3.6 billion—the largest total of firms and gross receipts of any state. Texas ranked second in both number of firms (40,490) and gross receipts ($1.6 billion). Hawaii ranked third in receipts ($1.1 billion) but sixth in the number of firms (13,913).

Among Standard Metropolitan Statistical Areas in 1972, the Los Angeles-Long Beach area had the largest number of all minority-owned firms (34,862) and the largest revenue received from these operations ($1.5 billion). Next in order were New York, San Francisco-Oakland, Chicago, Washington, Honolulu and Houston.

The report shows that in 1972, minority-owned firms were highly concentrated in retail trade and selected services . . . these firms accounted for 63 percent of all firms and 58 percent of their receipts.

More Americans 'Want To Be Alone'

A growing proportion of households in the United States are headed by persons who live alone or with nonrelatives only—called primary individuals. Commerce's Bureau of the Census reports that even though these primary individual households represented less than one-fourth of all households in 1975, they have accounted for nearly one-half (47 percent) of the total household increase since 1970.

Contributing to the growth of primary individual households are the increasing numbers of young unmarried persons who have left the parental home and older persons living apart from any relative after their families have dissolved. Young adults under 35 accounted for more than half of the 3.6 million increase in primary individuals between 1970 and 1975.

In March of this year, the total number of households in the nation was estimated at 71.1 million, an increase of 7.7 million since the beginning of the decade. Of this total, nearly 47 million (66 percent) were husband-wife households; 8.6 million (12 percent) were families in which no spouse of the household head was present (most of these headed by a woman); and the remaining 15.6 million (22 percent), were households of the primary individuals.

The total number of families in 1975 was estimated at 55.7 million compared to 51.6 million in 1970. The proportions of both white and black families headed by women increased during the period—white female-headed families from 9 to 11 percent of the total, and black female-headed families, from 28 to 35 percent of the total.

The average-size household in March contained 2.94 persons, continuing a decline from the early 1960s when the average was 3.33. Reasons for the decline include the falling birth rate, which has caused a decrease in the average number of persons under 18 years old in households, and the increasing proportion of households consisting of single individuals. In 1975, nine out of ten primary individuals (13.9 million) live entirely alone as one-person households.

Calendar For Businessmen

Sept. 22-26 — Milwaukee — Quality Engineering course, Holiday Inn-Midtown. For information, American Society for Quality Control, 161 W. Wisc. Ave., Milwaukee, Wisc. 53203 (414-272-8575).

Sept. 24-26—Philadelphia—The American Apparel Mfrs. Assn. Convention/Bobbin Show, Civic Center. For information, AAMA, 1611 N. Kent St., Arlington, Va. 22209 (703-524-1864).

Sept. 30—Key Largo, Fla.—Public Hearing on environmental impact of marine sanctuary, N. Key Largo Elementary School. For information, Commerce's National Oceanic and Atmospheric Administration, Washington, D.C. (202-634-4245).

Oct. 2-4—Newport Beach, Cal.—National Conference on Marine Recreation, Marriott Hotel. Sponsors: Commerce's National Oceanic and Atmospheric Admin. and Univ. of So. Cal. For information, Susan Anderson, Sea Grant, USC, 4676 Admiralty Way #1102, Marina Del Rey, Cal. 90291 (213-822-1648).

Oct. 2-30 — Philadelphia — Professional Development Seminar for Women in Business, Drexel Univ. For information, Director, Continuing Professional Education, Drexel Univ., 32nd & Chestnut Sts., Philadelphia, Pa. 19104 (215-895-2154).

Oct. 6-7—Washington — New Developments in Natural Gas Curtailment conference, Sheraton-Park Hotel. For information, Executive Enterprises, Inc., 10 Columbus Circle, New York 10019 (212-489-2680).

Oct. 6-7—Houston—Risk Management of Oil and Gas Exploration seminar, Holiday Inn-Downtown. Sponsor, The Wharton School, Univ. of Penna. For information, Ms. Heidi Kaplan, Dept. 14NR, New York Management Ctr., 360 Lexington Ave., New York, N.Y. 10017 (212-953-7262).

Oct. 6-8 — Milwaukee — Quality Audit-Development & Administration course, New Milwaukee Inn. For information, American Society for Quality Control, 161 W. Wisc. Ave., Milwaukee, Wisc. 53203 (414-272-8575).

Oct. 7—Philadelphia—Management Introduction to Electronic Data Processing, Drexel Univ. For information, Director, Continuing Professional Education, Drexel Univ., 32nd & Chestnut Sts., Philadelphia, Pa. 19104 (215-895-2154).

Oct. 7-9—Washington—Finance and Accounting for Nonfinancial Executives, Georgetown Univ. For information, Marie Skogland, Continuing Management Education, SSCE, Georgetown Univ., Washington, D.C. 22057 (202-625-4363).

Road Construction Technology Seminars In African Nations Pave Way To More U.S. Sales

Most African countries attach great importance to transportation in developing their infrastructure—a situation that led recently to an impressive number of business contacts for six U.S. firms conducting in-country seminars on road construction technology. The technical presentations, arranged by the Commerce Department, were held in the Ivory Coast, Nigeria, and Zambia, with a brief stop for business appointments in Kenya.

The seminar panel found the most ambitious road construction program in Nigeria, where the country's new Five-Year Development Plan has allocated about $8.6 billion for road works covering some 30,000 kilometers. The bulk of expenditures for new road construction will be concentrated on filling out the network of Trunk A roads (main arteries), several of which are scheduled to be converted to divided expressways. Substantial investments will also be made in Trunk B (secondary) road construction, urban bypasses and flyovers, asphalt overlaying, and road maintenance. All federal roads will be built to a design speed of 100 kilometers per hour. Despite the Federal Government takeover from the states of 16,000 kilometers of Trunk B roads, the states retain significant responsibilities for other secondary and local feeder roads involving a budget of $1.6 billion.

AUDIENCE PARTICIPATION—*During seminar in Lagos on road construction technology, Nigerian attendee (left) raises a question following technical presentation by James Carter (right) of Soiltest International on using electronics to build safer roads.*

Tremendous opportunities exist for consultants, contractors and equipment suppliers to meet demands created by this burst of activity in Nigeria. The panel found that U.S.-made heavy construction equipment has an excellent reputation for its high engineering quality and durability. As previous market research had indicated, there is particularly high sales potential for the following U.S. equipment: tracklaying tractors; motor graders; standard and tandem powered wheel tractor scrapers; concrete mixers and batchers; tractor shovel loaders; off-highway wheel tractors; self-propelled hydraulic cranes and shovels; and concrete pavers and finishers. The most important end-users are the large construction contractors (of which the greatest number are majority-owned expatriate companies), although the Federal Ministry of Works and Housing occasionally makes large purchases on behalf of its contractors. Distribution of road construction equipment in Nigeria—as in most African countries—is handled largely through local dealers.

The Ivory Coast offers a heavy construction equipment market estimated at $34 million for 1975, much of this to be spent on general purpose track-type tractors. Despite the dominant French presence among contracting companies, U.S. equipment is well regarded and most of the categories mentioned above for Nigeria plus off-highway dump trucks and maintenance and leveling equipment are expected to be in strong demand. The outlook is enhanced by the generally sound economy of the Ivory Coast and the sales opportunities that will be generated by a number of new major projects: a $125 million hydroelectric dam, a series of sugar complexes, exploitation of an iron ore deposit, a new railroad and power dam, agribusiness expansion, and port development at San Pedro.

Zambia offers a smaller market. The 1972-76 Development Plan provides $150 million for road construction and another $55 million worth of additional projects have been proposed. The plan calls for greater attention to road resurfacing and

ON-SCENE PRESENTATION—*After U.S. panel's session in Abidjan, seminar chairman Wesley Mendenhall (left) awards "Peace and Commerce" medal to Desire Boni, Ivorian Minister of Public Works.*

maintenance as well as building 860 miles of new roads.

Results impressive

Nearly $30 million in sales are expected in the next 12 months by the companies that participated in the seminar. Numerous sales prospects and potential agents were developed by members of the group, and immediate sales and appointment of an agent were concluded on-the-spot by one of the firms.

The trip was considered worthwhile by all participants, despite the diversity of the companies' export experience and objectives in Africa. The firms not yet established in the market explored the rapidly expanding export possibilities in this important emerging area, where success often requires a considerable commitment of time and effort, as well as demonstrated ability and willingness to provide after-sales parts and servicing and prompt delivery. For those participants established in the market, the seminar was a useful way to generate additional interest among end-users in purchasing equipment handled by their agents or distributors. James Carter of Soiltest International summed up the benefits for his company this way: "The face-to-face contact with our dealers was invaluable, especially since I was the first man from our home office ever to make a personal visit to Africa. In the Ivory Coast we changed representatives, and in Kenya and Zambia we succeeded in re-invigorating the efforts of formerly inactive agents."

The seminars proved to be a highly successful promotional technique for attracting high-level interest in the U.S. road construction team. The session in Abidjan was opened by Ivorian Minister of Public Works Desire Boni. The members also flew to Bouake and Katiola for an informative tour of construction activity on the Northern Road project, hosted by the private contractor supervising the work. The seminar in Nigeria was attended by representatives of 6 of the 12 state governments, despite the substantial distances involved. Here the team was accompanied by E. N. Ukpoma, Assistant Director of Federal Public Works, on a wide-ranging tour of construction in the Lagos vicinity, including the new airport road and Apapa-Ikeja expressway.

The three seminars were all well attended by key government officials, construction contractors, and local dealers. James Wells of Slurry-Seal International commented, "'I was pleased at being able to make some very useful contacts during the seminar sessions, supplementing the business appointments previously arranged by the Commerce Department and U.S. Embassies."

The technical papers presented covered practically all phases of roadbuilding activity. An overview of "key consideration in the development of highway systems" was provided by the chairman, Wesley S. Mendenhall, Jr., Director, Office of Highway Operations, Federal Highway Administration, U.S. Department of Transportation. Other topics presented were: design and preparation; surveying and soil testing; load and carry earth-moving techniques; soil stabilization; bridge culvert and other concrete construction using steel forms; and asphalt emulsion preparation and handling.

Seminar members, in addition to those already named, and the firms they represented, were: Earl F. Neiderer, L. Robert Kimball Consulting Engineers; Jan F. Nielson, Clark Equipment International; Werner Prochaska and Olaf Leite, Koehring Co.; and John McIntosh, Economy Forms Corp. Commerce's Ralph S. Edwards served as seminar coordinator.

Official Trade Briefs

This article is another in a series of reports that describe actions affecting world trade, as compiled by the Legislative and Tariff Policy Division of the International Economic Policy and Research Staff's Office of International Trade Policy.

CONGRESS

Congress was in recess in this period.

STATE DEPARTMENT

The U.N. General Assembly met in its seventh special session to discuss the present depressed state of the world economy and to develop proposals to improve the international economic order. Daniel P. Moynihan, U.S. Ambassador to the United Nations, put forward several proposals for international actions to promote economic development, especially in developing nations. (SEE COMMODITIES)

TREASURY DEPARTMENT

Dumping Cases: On Aug. 7, Treasury initiated a formal investigation into allegations that **imported automobiles** from Belgium, Canada, France, Italy, Japan, Sweden, the United Kingdom and West Germany are being "dumped," that is, sold at less-than-fair-value (LTFV), in violation of the U.S. Antidumping Act of 1921. Because statements by several domestic auto industry spokesmen raised substantial doubt that there is a link between the allegedly dumped imports and the current depressed state of the industry, a link required by U.S. law, Treasury had requested the U.S. International Trade Commission to conduct a preliminary inquiry to determine, based on information currently available, whether there is any reasonable indication that the U.S. industry is being or is likely to be injured by reason of automobile imports. If the Commission found no such reasonable indication, the Treasury investigation was to be terminated. However, the Commission's preliminary inquiry indicates that imports have caused injury to U.S. automakers. Thus, an in-depth inquiry as to whether imported automobiles are sold in the U.S. at LTFV will be undertaken by the Department. A Treasury decision on this issue must be reached by Feb. 7, 1976. If the decision is affirmative, the Commission will be required to thoroughly investigate whether the U.S. industry is being or is likely to be injured by the foreign imports. If the Commission's determination is again positive, special dumping duties would be assessed on an entry-by-entry basis to eliminate any price discrimination. (See INTERNATIONAL TRADE COMMISSION)

The Department announced initiation of an anti-dumping investigation on imports of **knitting machinery for ladies' seamless hosiery** from Italy. A tentative determination to revoke a finding of dumping in the case of **potassium chloride** from France also was announced by the Department. The sole French exporter is no longer selling, or likely to sell, potas-

sium chloride to the United States at LTFV.

Countervailing Duty Cases: The Department is initiating investigations under the U.S. Countervailing Duty Law against imports of **cheese** from Finland and Sweden. Under the law, the Secretary of the Treasury is required to assess an additional duty on imported merchandise equal to the amount of the "bounty or grant" which has been paid or bestowed on such merchandise. A final determination as to whether a "bounty or grant" has been paid must be made on Finnish cheese by June 10, 1976, and on cheese from Sweden no later than June 18, 1976.

A similar investigation was instituted concerning imports of **ceramic wall tiles** from the Philippines. A final determination must be made on or before Feb. 26, 1976.

LABOR DEPARTMENT

Adjustment Assistance—Workers: The Department certified workers at several firms as eligible to apply for trade adjustment assistance. The Department found that these workers became unemployed as a result of increased imports. The workers certified had been employees of the following firms: approximately 1,300 workers of Rockwell International Corp., Hopedale, Mass. **(weaving machinery);** app. 400 workers of Florsheim Shoe Co., Chicago **(men's footwear);** app. 170 workers of Pennsylvania Shoe Co., Altoona, Pa. **(women's footwear);** app. 500 workers of International Shoe Co., Sikeston, Mo. **(men's footwear);** app. 280 workers of Freemen-Toor Corp., Waynesboro, Pa. **(men's footwear);** app. 250 employees of Westminster Corp., Westminster, Md. **(children's footwear);** app. 20 workers of Emerson Television & Radio Co.'s National Parts and Service Department, Jersey City, N.J. **(television receivers);** app. 115 workers of Weynberg Shoe Mfg. Co., Waupun, Wis.; app. 50 employees of International Shoe Co., Perryville, Mo. **(men's footwear);** and app. 500 employees of Brown Shoe Co., Brookfield and Charleston, Mo. **(women's footwear).**

The Department denied petitions for trade assistance for workers of the following firms: app. 600 of Brown Shoe Co., Fulton and Versailles, Mo. **(women's footwear);** app. 350 workers of Singer Co., Ozone Park, N.Y. **(circular knitting machines);** app. 1,160 workers of Allis Chalmers Corp., Pittsburgh, Pa., and Gadsden, Ala. **(overhead, submersible and padmounted distribution transformers);** app. 250 workers of Houdaille Industries, Inc., Huntington, W. Va. Division **(auto bumpers);** and app. 50 workers of Richard Miller Enterprises, Inc., Lynn, Mass. **(heels for women's footwear).**

Investigations—Workers: Investigations to determine eligibility for adjustment assistance were instituted on behalf of workers of the following companies: Sabel Industries Div. of Midland Ross Corp., Easton, Pa. **(rubber gaskets for IBM machines);** General Motors Corp., Frigidaire Div., Dayton, Ohio **(home appliances and auto parts);** Chrysler Corp., Dayton, Ohio **(heating and air conditioning components for Chrysler cars and trucks, residential air conditioners);** Warwick Electronics, Inc., Forrest City, Ark. **(color televisions, stereos);** General Coat Mfg. Co., Baltimore **(men's clothing);** Girard Mfg. Co., Girard, Pa. **(toy trains);** Emerson Radio & Phonograph Corp., Jersey City, N.J. **(radios, televisions, phonographs).**

Penn Vulcan Heel Co., Inc., Hanover, Penn. **(heels for men's and women's footwear);** Amos Abbott Co., Dexter, Maine **(woolens for men's and women's apparel);** Carlisle Tire & Rubber Co., Carlisle Pa. **(bicycle tires and tubes);** General Electric Co., Philadelphia **(electrical switchgears);** General Motors Corp., Dayton, Ohio **(auto parts);** Sterling Electronics, Magnetic Windings Div., Easton, Pa. **(coils and transformers);** Stockpole Carbon Co., St. Marys, Pa. **(resistors, ferrites, brushes, anodes);** Keystone Carbon Co., St. Marys, Pa. **(thermistors);** Springfield Wire of Indiana, Inc., Evansville **(power cords and wire harnesses for appliances);** Westinghouse Electric Co., East Pittsburgh **(turbo generators and motors, water wheel generators and pumps, power circuit breakers);** General Electric Co., Rockford Cabinet Plant, Rockford, Ill. **(wood cabinets for televisions);** Midwest Handbag Co., St. Louis **(ladies' handbags);** Randy's Mfg. Co., Inc., Randolph, Mass. **(canvas footwear);** and Oneida Ltd., Sherrill, N.Y. **(stainless steel flatware).**

COMMERCE DEPARTMENT

Adjustment Assistance — Firms: The Department has announced that Deansgate, Inc., a New Orleans manufacturer of **men's suits, sportcoats and trousers,** has been certified eligible to apply for adjustment assistance under the Trade Act of 1974. The firm is now entitled to apply to the Department's Economic Development Administration for assistance under a program designed to aid the recovery of firms which have been adversely affected by the impact of increasing imports.

Investigation—Firms: The Department the eligiblity of Indian Head Shoe Co., Inc., Manchester, N.H., for adjustment has instituted an investigation to determine assistance.

INT'L TRADE COMMISSION

Dumping Cases: In response to a request made by Treasury, the Commission had conducted a 30-day inquiry to determine whether there is no reasonable indication that the automobile industry in the United States is being or is likely to be injured by reason of importation of **automobiles** from Belgium, Canada, France, Italy, Japan, Sweden, the United Kingdom, and West Germany. If the Commission found no such reasonable indication, the anti-dumping investigation concerning imported autos was to be terminated. The Commission having found that there is a reasonable indication of injury to U.S. auto manufacturers, Treasury's investigation will now continue. (See TREASURY DEPARTMENT)

Section 337—Unfair Import Practices Case: The Commission instituted an investigation based on a complaint alleging unlicensed importation and unfair methods of competition and unfair acts in the sale in the United States of **glass fiber optic devices and instruments equipped with such glass fiber optic devices.** The complainants, American Crystoscope Makers, Inc., Stamford, Conn., have named Olympus Optical Co. Ltd., Tokyo, and Olympus Corp. of America, New Hyde Park, N.Y., as importers of the subject products.

The Commission also announced suspension of Investigation 337-TA-3 **(doxycycline)** until further notice.

SPECIAL TRADE REP.

Three complaints have been received under Section 301 of the Trade Act of 1974 regarding discriminatory foreign trade practices. Delta Steamship Lines filed a complaint alleging unfair practices by Guatemala against U.S. commerce. A public hearing will be held in the case on Sept. 16-17. United Egg Producers, Atlanta, and the American Farm Bureau, Park Ridge, Ill., have filed a complaint alleging unfair trade practices by Canada against U.S. commerce in eggs. A public hearing was not requested, but written public views must be submitted on this complaint by Sept. 22. The third complaint was filed by Seymour Foods, Inc., Topeka, Kan., and alleged unfair trade practices by the European Community against U.S. commerce in egg albumen. Dates for public comment have not yet been set.

Section 301 gives the President broad authority to take certain retaliatory actions if he determines that a foreign government or instrumentality unfairly discriminates against U.S. trade. The Office of the Special Representative for Trade Negotiations is responsible for providing for the presentation of public views by public hearings where appropriate and for conducting reviews of complaints filed under Section 301. Regulations governing the procedure for complaint review were published Aug. 28 in the *Federal Register.*

Commodities

The following report was compiled by the International Commodities Division, Office of Import Programs, Bureau of Resources and Trade Assistance.

United Nations—U.S. Proposals: Ambassador Daniel Moynihan's presentation at the opening of the U.N. seventh special session on Sept. 1 set forth several proposals for international action related to commodities. To assist developing countries facing sharply increased prices for fuel and food imports, coupled with wide fluctuations in their commodity export earnings, the U.S. has proposed creation of a new development security facility in the International Monetary Fund to provide loans of as much as $2.5 billion annually (up to a total of $10 billion) for stabilization of the overall export earnings of developing countries. Elaborating on U.S. proposals at last year's World Food Conference for an international system of nationally held stocks, he suggested that total world reserves should reach at least 30 million tons of wheat and rice, and that consideration be given to a similar reserve for coarse grains.

With regard to other commodities, it was set forth that the United States will continue to follow a case-by-case approach to the problems of individual products, and recommended establishment of producer/consumer forums. While indicating that price stabilization is not generally a promising approach to the economic problems in commodity trade, Moynihan stated that the United States intends to sign the recently negotiated International Tin Agreement subject to Congressional consultation and ratification, participate in upcoming negotiations on coffee, cocoa, and sugar, and support liberalization of IMF financing of buffer stocks.

In the ongoing multilateral trade negotiations in Geneva, the U.S. objectives will include seeking early agreement on tropical products tariffs; negotiation of changes in the system of protection of industrialized countries which favor imports of raw materials over other goods; development of rules governing export restraints, and negotiation of commitments on supply access.

To assure adequacy of supplies, the U.S. has proposed a major new international effort to expand raw material resources in developing countries, with the World Bank Group, in concert with private enterprise, playing a fundamental role in facilitating access to capital and technology as well as providing financing. In addition, the United States will support the new U.N. revolving fund to encourage worldwide development of natural resources.

Tourist Shift Toward CACM Nations Can Aid New Exports, Investments

A recent swing by U.S. tourists toward Central America—up 19 percent in 1974 while the flow to Europe was falling nearly 12 percent—has turned the nations in that area to increased promotion of their relatively new tourist industries.

As international travel costs rise, Central America's proximity becomes more attractive, as do the area's moderate food and lodging prices. Many interesting archaeological ruins and other sightseeing features, plus fine beaches and plentiful sun, also contributed to bringing in 277,036 visitors from the U.S. in 1974.

All the Central American nations have tourism development programs and agencies, and a regional office, the Secretariat for Central American Tourism Integration, has been in operation since 1963. Tourism's benefits in foreign exchange earnings, creation of employment, and additional tax revenues insure that such programs will continue to receive priority attention.

Examples of current projects or investments in the Central American Common Market tourist sector include the following:

Costa Rica—Investment in new hotel construction and tourist oriented projects is likely to be at record levels during the next few years. Two luxury hotels are planned for 1976.

El Salvador—El Salvador is in the middle of a five-year plan (1973-1977) program which expects to spend $11 million in tourist projects. Expansion of current facilities and construction of new facilities is under way.

Guatemala—Currently there are 650 hotel rooms definitely planned for construction in Guatemala and probably an additional 350-400 rooms under construction.

Honduras—At mid-year, a 214-unit hotel in San Pedro Sula, with convention facilities, was due to be completed. In late 1975 or early 1976, initial construction is expected on a 200-unit tourist hotel near Tela.

Nicaragua—There are four major projects under way accounting for about 450 new first-class hotel rooms. Additionally, there are two other projects, involving over 200 rooms, in the initial process.

Several factors account for the attractiveness of this market for U.S. exporters. A range of fiscal incentives to investors is offered. For example, legislation recently adopted in Nicaragua allows, among other incentives, a ten-year exemption on capital and profit taxes as well as duty-free import of all materials needed in construction and operation of new tourist facilities. Though exact incentives may vary by country, they are generally similar.

U.S. exporters benefit from proximity to the region, which guarantees fast delivery times and insures that support and maintenance services can be provided quickly. Additionally, U.S. goods enjoy a high reputation for quality.

Finally, adding to the attractiveness of the area is its favorable investment climate. Governments in the region recognize the need for foreign investment to supplement local capital in the development process.

Investors interested in additional information on this market can contact the Country Marketing Manager for Central America, U.S. Department of Commerce, Washington, D.C. 20230.

ASIE Holding Exams For Career Traders

The American Society of International Executives will be holding its 24th semi-annual series of examinations for career international trade professionals at various U.S. sites on Nov. 15.

The exams will be given in the following categories: Certified Documentary Specialist, for which one year's experience is required; Certified International Executive, requiring two years experience, and Qualified International Executive, requiring five years experience. Examinations in the latter two categories may be taken in one of four fields: export management, traffic management, freight forwarding, and air forwarding.

Applications for the examinations must be approved by Oct. 24. It is recommended that at least two months be allowed for study and preparation. Information on study outlines and examination details is available from: American Society of International Executives, 1218 Chestnut St., Philadelphia, Pa. 19107.

U.S.-Yugoslav Meetings

The U.S.-Yugoslav Economic Council, led by its new chairman, William Rose, president of Armco International, has been holding a series of meetings across the country this month. Yugoslav business and government officials have addressed the attendees, describing current economic conditions in Yugoslavia and opportunities to do business with Yugoslav enterprises.

The meetings, which took place in San Francisco, Houston, Chicago, Cleveland, and New York, will wind up in Pittsburgh Sept. 29. For more information on council activities, write: U.S.-Yugoslav Economic Council, Inc., Suite 1504, 51 E. 42nd St., New York, N.Y. 10017.

PRECEDENT-SETTING CALL—*At U.S. Trade Center show in London, Jack Ashley (center), deaf member of Parliament, dials Washington on first trans-Atlantic telephone call between two deaf people, as U.S. Ambassador Elliot Richardson (seated, right) looks on.*

Telecommunications Show In London Sparks Lively Buying, Good Prospects

Results of the telecommunications equipment and systems exhibition held earlier this year at the London U.S. Trade Center demonstrate that there is a good market in the United Kingdom for U.S. products in the field.

Floor sales alone reached almost $3 million. One exhibiting firm recorded five times more business leads than expected. Another, participating in its first Trade Center show, found that all visitors were high-level buyers and foresees first-year sales of $1.25 million. Another achieved its primary objective of making contact with the British Post Office and expects $1.5 million worth of sales. And still another, noting that its plans are unusually long range, cites the possibility of a contract from an exhibition lead relating to as much as $5 million in years to come. Important prospective purchasers of telecommunications equipment from the British Post Office, industry, relevant ministries and government departments, and associations involved with the care of the deaf attended the Center reception.

Widespread interest was elicited in equipment ranging from telephone booths and various cords and plugs to high speed data modems and multiplexers. Among the equipment attracting above-average attention were PABX business communications systems, teleprinter and radio telephone terminals, VHF and UHF mobile and base transceivers, and specialized test equipment.

The United Kingdom long has been recognized as one of the largest manufacturing and end-user markets for telecommunications equipment in the world. The production—and purchase—of major telephone switching systems is controlled by the U.K. Post Office Corporation, however. Private and public sector buyers have had relatively little exposure to the latest advances in U.S. telecommunications-related technology. The exhibition, therefore, was highly useful in introducing a variety of equipment into this potentially important outlet for numerous U.S. products other than the large-scale switching systems.

The show's 45 participants representing 69 companies provided the largest exhibition ever held at the London Trade Center. As reported in the June 23 issue of *Commerce Today*, 12-month sales are projected at more than $45 million. The unusually large attendance—registered visitors, 1,906—stemmed partially from the special feature of the opening ceremonies, attended by U.S. Ambassador Elliot Richardson. Using equipment on display at the exhibition, the first trans-Atlantic telephone call between deaf people was consummated (*Commerce Today*, June 9).

U.S. Exhibitors Welcome At '76 Japan Shop Show

U.S. manufacturers are invited to display their products next March 4-10 at "'76 Japan Shop," the fifth shop system show to be held at the Tokyo International Trade Center. Construction and decoration materials, layouts and show windows, shop-related information equipment, and safety systems will be among the products exhibited.

Sponsored by Nihon Keizai Shimbun Sha (Shop System Development Research Society), the show is supported by several government ministries and other organizations. The shop and small store industry in Japan is said to be rich in future possibilities but in need of modernization. Almost 104,000 visitors (paid attendance)—retailers, wholesalers, specialists in shop planning and construction, and manufacturers of shop equipment and materials—attended this year's show.

Application mailing address: Secretariat of the Japan Shop Show, 828 Ohtemachi Building, 1-6-1, Ohtemachi, Chiyoda-ku, Tokyo 100, Japan; phone, 03-270-0251.

Norwegian Cities Will Host Energy Events In May, June

Two energy-related events will be hosted by Norwegian cities in mid-1976.

"Energia '76", an international exhibition and seminar, will be held in Oslo May 11-15. Suppliers of equipment and services for energy conservation and heating and air-conditioning may obtain information from the Norwegian Fair Organization, Box 130, Skoyen, Oslo 2; telex, 18748 messe n; cable, Varemessen Oslo.

Bergen will be the site for an international symposium on automation in offshore oil field operation June 14-17. Some 500 specialists are expected to attend. Contact: Kaare Rosandhaug, Ship Research Institute of Norway, N 7034 Trondheim-NTH.

Amusement, Park Equipment To Be Focus Of USSR Show

The USSR Chamber of Commerce and Industry is sponsoring the second International Exhibition of Modern Amusement and Park Equipment, ATTRACTION-76, in Moscow July 1-18.

Interested companies send ten copies of their catalogs to: USSR Chamber of Commerce and Industry, Directorate of Foreign Exhibitions, ATTRACTION-76, Sokolnicheski val la, Moscow 107232. The Chamber will send a list of equipment it would like to have exhibited and necessary application forms. For details call Bob Dollis of the Commerce Department's Bureau of East-West Trade, 202-967-4002.

U.S. Exhibitors In Moscow

Eight U.S. companies participated recently in an exhibit and seminar on pulp and paper machinery and processes at the U.S. Commercial Office in Moscow. The three-day program enabled these companies to explore market opportunities in the Soviet economy with a minimum expenditure of time and money. Each firm mounted a small exhibit and presented a technical paper for discussion with a highly selective Soviet audience of trade officials, scientists, technicians and end-users. Most of the U.S. companies had not traded in the Soviet Union. Sales projected for the next 12 months on the basis of the group's contacts exceed $3.5 million. The Commerce Department sponsors five such exhibit/seminars annually at the Moscow Commercial Office, on themes selected on the basis of market potential for U.S. companies. On this page, Soviet guests are shown inspecting displays; lower photo, U.S. Commercial Office Deputy Director Jim Blow (left) introduces seminar speaker Richard Lynn of Beloit-Walmsley, Beloit, Wis., next to interpreter.

Worldwide Business Outlook

U.S. Posts In Australia See Broad Market Opportunities

U.S. sales prospects in Australia have lost much of their ebullience during the last 12 months but demand, outside a few troubled product areas, remains strong. After setting a record in 1974, U.S. exports have eased in 1975 to a level which is still high by any long-term standard. Moreover, the current shakeout appears largely to have run its course and U.S. sales should hold and possibly exceed their present level in the rest of 1975 and into next year, according to Robert E. Simpson, Commercial Officer at the U.S. Embassy in Canberra. In this review of prospects for U.S. trade in Australia Simpson includes comments on the outlook for individual products gathered by U.S. commercial officers in Melbourne, Sydney, Perth and Brisbane in the course of field interviews with local trade circles.

From under $1 billion in 1972, U.S. exports rose steadily through 1973 and peaked at over $2 billion in 1974. The annual rate so far in 1975 has been $1.7 billion, which is higher than any year prior to 1974. The sharp 1973-74 rise was part of an import surge in response to Australia's inflation-heated domestic demand, and a package of pro-import measures adopted by the Australian Government during 1973 to resist inflation. This surge peaked in the third calendar quarter of 1974, a quarter which also marked a general turnaround in Australia's domestic economic boom and the beginning of a slump in production and employment. Rising unemployment thereafter triggered a series of domestic measures including a 12 percent Australian dollar devaluation and numerous temporary import restrictions on such items as textiles, apparel products, appliances, sheet steel and automobiles. Australia's 1975 imports both from the United States and the world have receded considerably under the combined impact of these restrictions and falling demand.

There are encouraging signs that the slump is bottoming out. The unemployment rise is flattening and despite low business and investment levels, retail sales and consumer demand have picked up. The big inventories of imported consumer goods built up in Australia following the frantic import-ordering period of 1973-74 are now dropping and this drag on imports, especially in many consumer goods areas, is abating.

Meanwhile, Australian exports continue to set new all-time records, a brief period of trade deficit has been followed by resumption of a rising trade surplus and the Australian balance of payments is back in the black. World commodity developments, including stiffening wheat, sugar and wool prices, plus sharp increases in long-term Japanese commitments and prices for Australian coal strengthen the outlook for Australia's exports and balance of payments. Australian imports in the foreseeable future face no balance of payments threat and the level of imports should largely be determined by internal developments.

U.S. competitive position

The U.S. competitive position has improved greatly as the result of devaluation of the U.S. dollar against the A$ since 1971. Part of this was offset by Australia's 1974 devaluation and the recent strengthening of the US$ in relation to European currencies has been reflected in some further marginal appreciation against the A$. Notwithstanding these developments, the U.S. dollar still retains much of its new advantage relative to the Australian dollar (14 percent) as well as in relation to the yen. Moreover, U.S. price competitiveness benefits additionally from the fact that U.S. inflation has consistently lagged behind Australia's.

U.S. exports to Australia have traditionally been dominated by industrial raw materials and capital goods—especially transportation equipment. Consumer goods, as well as some industrial items, have been less prominent in U.S. exports because so many American firms have commenced manufacture in Australia and supplanted exports with local production. But sharp increases in Australian demand and production costs during the past two years have given new impetus to direct exports of American products. The modest share of consumer goods in U.S. shipments has apparently increased while in many lines cost factors have favored greater U.S. shipments over local production by American subsidiaries in Australia.

U.S. exports to the broad and affluent Australian market include a wide variety of capital and consumer goods, industrial supplies and raw materials. There are relatively few significant American product groups which do not enjoy some sales opportunities. This makes it difficult and possibly misleading to single out a short list of products for special emphasis. Moreover, given the size of the market, its distance from the United States and the number of very large firms engaged in the trade, it is unrealistic to think of most products as candidates for sudden sales campaigns responsive to short-run factors. For these reasons, the following discussion is necessarily in terms of product groups, or of particular end-user sectors. Moreover, while short-term factors are noted, it seems more valid and thereby more useful when discussing U.S. sales in Australia to assess prospects on an intermediate-term basis.

Important influences on the 1975-76 U.S. market in Australia will include major government programs, the general level of business activity, developments in the important mining industry, and developments in consumer demand and taste.

The short-run prospect is that business investment and industrial activity will continue for several months at a comparatively low level. Inflation rates will remain higher than in the United States, bringing further rises in Australia's very high wage level, production costs and consumer income. But the forthcoming 1976 budget, despite intended pruning, will probably still include major expenditures on several high priority social programs. Meanwhile, the important mining sector of the economy will continue to operate at its high current production level and some expansion will start in the coal industry even though exploration and development of other new mineral deposits will continue to lag.

Product areas with highest potential

These circumstances suggest certain product areas in which opportunities should be better than average, including:

Biomedical Equipment: The Australian Government launched on July 1 a universal health insurance program which will undoubtedly increase the quantity of medical services rendered and will inevitably entail rising expenditures to augment health and medical facilities throughout the country. This should include much new hospital construction and large associated biomedical equipment purchases. Products in demand will include general hospital and operating theatre lighting systems, operating tables and associated equipment, data processing systems for diagnostic and administrative services, cardiac and intensive care equipment, institutional food preparation and distribution systems and a variety of associated and specialized health and medical equipment. Anticipating this development, the U.S. Trade Center in Sydney has scheduled a major exhibit of U.S. medical and laboratory equipment in October and the medical equipment field has been selected for special U.S. trade promotion effort in 1975-76.

Printing and Graphic Arts Equipment: This area has been selected for special export promotion emphasis by the U.S.

Trade Center and Commercial Officers in Australia during the coming year. This includes a current major exhibit of U.S. products at the Trade Center, a U.S. trade mission to Australia in May and a U.S. exhibit organized by the Trade Center in the Australian Pak-Print '76 Exhibition at the end of May in Sydney.

Household Consumer Goods: American housewares and hardware items are popular and competitive in Australia. These include hand tools, kitchen equipment, moderate-priced knocked-down furniture, glassware and tableware. Some of the high current demand for these items derives from large wage increases, exceeding the inflation rate, which have taken place in past months while some discretionary purchases are motivated by fear of price increases in coming months.

Metalworking Equipment and Machine Tools: Superior U.S. technology and highly competitive prices place the U.S. industry in a good longer-run position in the Australian market as manufacturing industries begin to expand out of the current slump. This product area has also been selected for long-run special trade promotion emphasis. It will be the subject of a June U.S. Trade Center exhibit.

Camping, Sporting and Leisure Equipment: The market for leisure time products—camping gear and boating and sporting equipment—has been strengthened by the inclusion of longer vacation times in industrial labor contracts. Australia has long been noted for the emphasis it places on outdoor recreation, and pressure has been growing rapidly on sport, travel and recreation facilities. But the cost of domestic travel accommodation is extremely high. Higher income and increased leisure time for large segments of the population will further boost demand for camping, travel and sport and for all types of equipment associated with them.

Business Equipment: Despite the relative slowdown in business activity, the severe cost pressures placed on business by rising wage levels are placing a premium on all kinds of labor-saving equipment. Items in demand include business machines, printing, duplicating and copying equipment, mini-computers for office use, internal communications equipment, accounting systems and retailing equipment.

Industrial and Scientific Instruments: A successful February exhibition at the U.S. Trade Center confirmed a strong market for these instruments, particularly measuring, controlling and testing instruments. The continous change in manufacturing technology and in process industries is widening demand for this type of equipment.

Sales prospects are also good for the following types of equipment:

Pollution Control Equipment: Increasing public and official awareness of pollution control problems and interest in the world environment are creating new demands for this type of equipment. The advanced design and competitive prices for new American products in this field make them attractive to Australian companies.

AUSTRALIAN SHOWPLACE FOR CONSUMER PRODUCTS—*Some of Australia's largest retail merchandisers have shops in the Monaro Shopping Mall at Civic Centre in Canberra.*

Agricultural and Farm Equipment: While Australian farmers, especially in the beef and wool industries, are suffering reverses, continued modernization of smaller farms and good prices for truck and orchard crops make an attractive market for small agricultural equipment. In the longer run, sharp increases in wheat and sugar prices and the recovery of wool prices should gradually strengthen the market for major agricultural equipment, although in these areas competition from Japan and from U.S.-owned domestic production is severe.

Food Processing and Packaging Equipment: There is lively interest in modernizing and mechanizing Australia's food processing industry. This offers markets for U.S. equipment, especially for medium-capacity, automated equipment. The U.S. Trade Center is sponsoring a U.S. exhibit of this equipment in Sydney May 31-June 4.

FM Radio Transmission Equipment: FM radio broadcasting is currently being introduced in Australia and current plans contemplate 240 transmitters with ancillary equipment to be installed over the coming eight years. This offers good opportunities for high-quality American equipment.

Books and Publications: This market has been comparatively small in the past, but is now beginning to grow. Its potential was demonstrated by the successful U.S. Book Fair presented at the Trade Center in April. At this show products of 89 U.S. publishers received an enthusiastic reception from Australian booksellers, libraries and educators.

Mining Industry Requirements: Strong exports of Australian mineral products are continuing and existing mines are heavy equipment buyers. Recent long-term coal supply agreements with Japan contemplate sharp increases in coal exports over the next five years and will be reflected in coal industry equipment requirements. At the same time, government policies have slowed the exploration and development of new mineral deposits and demand arising out of such development will be deferred.

Materials Handling Equipment: Most traditional types have good potential, with special emphasis on industrial trucks, automated conveyors, loading equipment, hoists and elevators. American equipment has a good reputation in this market, although it meets strong competition from Japanese sources.

Future of U.S. exports

The competitive strength of U.S. export products in Australia rests on their generally high quality, Australia's preference for U.S. technology, and currently favorable prices. In the consumer goods' areas these considerations are reinforced by the existence of an affluent, high-consumption economy with considerable affinity for U.S. living styles and consequent tastes for United States-type consumer goods.

These advantages should continue to favor high U.S. exports. But U.S. suppliers, despite their reputation for quality, are also too frequently noted for poor after-sales and technical backup service, as well as a tendency to treat small orders cavalierly and to be slow in responding to buyer inquiries and business communications. In a market in which the U.S share is under growing pressure from aggressive Japanese and Western European exporters, U.S. products can ill afford to have their present acceptance taken for granted.

Ambitious Plans, Ample Resources Are Big Attractions In Saudi Arabia

U.S. business continues to be a prime beneficiary of Saudi Arabia's explosive economic growth. Total Saudi imports in 1974 almost doubled to $3.8 billion (c.i.f.). Based on preliminary data, the U.S. share of this market jumped from around 20 percent in earlier years to the range of 30 percent, an f.o.b. value of $835 million. This trend seems to be continuing. U.S. sales for the first quarter of 1975 were $273 million, a 100 percent increase over the first quarter of the previous year.

It is doubtful whether these exponential growth rates can be sustained much longer: absorptive capacity and infrastructural facilities are already being strained. However, extremely ambitious long-term development plans plus more than ample financial resources make it certain that Saudi imports will continue to increase at a respectable rate for the foreseeable future, according to Dennis P. Murphy, Commercial Officer at the U.S. Embassy in Jidda.

Suppliers must be responsive

Major factors determining the U.S. share of the market depend as much on U.S. responsiveness as on local conditions. There is a strong preference for American products, an implicit belief in the superiority of American technology and quality. This advantage is further bolstered by the fact that U.S. goods are becoming increasingly price-competitive. The favored Impala Chevrolet now costs only a few hundred dollars more than the top of the Toyota line.

The main reason that the U.S. share of the market has not been greater in the past has been the relative indifference of U.S. manufacturers to supporting what was perceived as an inconsequential market. Through the period of strong domestic demand in the United States during the early 1970s, U.S. suppliers in case after case neglected orders from Saudi Arabia while export-oriented Europe and Japan stepped into the gap and carved out new market positions.

The current great upsurge in Saudi demand fortuitously coincided with the U.S. recession, which freed productive capacity and increased interest in export markets. This was a large factor in enabling U.S. firms to recover and even improve on their market position in the Kingdom. Whether American business continues to give top attention to Saudi Arabia as the U.S. domestic economy recovers remains to be seen.

Another important element in the future of U.S. exports to Saudi Arabia is the success of American companies in getting high-value construction and infrastructure development contracts. Despite severe internal inflation and other critical costing uncertainties, the Saudi Government still tends to insist on fixed price bidding. The Japanese and most European Governments fully support their companies with hidden subsidies, cost-overrun insurance and the like, which enable them to enter very competitive bids for long-term and exceedingly expensive projects with little fear of cost escalation factors. American contractors on the other hand must go naked into the bidding arena. How well they can continue to survive in this unequal contest is uncertain; yet on their success hangs the determination of the source of much of the equipment and materials which go into such projects.

In spite of its size and growing importance, the Saudi market continues to be a rather specialized one. Categories of greatest importance are transportation, construction equipment and materials; power generation and distribution; health care; and certain types of consumer goods such as food, automobiles, and audio-visual products. Aside from the unique case of ARAMCO—the Arab-American Oil Co.—there is little potential as yet for the range of sophisticated manufactures relevant to an industrialized economy. Even as industrialization gets under way it will be primarily in the context of joint ventures with foreign companies, with procurement determined for the most part by pre-existing supplier contacts of these companies abroad. Thus, the Saudi market is not a market for everyone, particularly in terms of a local sales effort. Further import growth—at least for the next few years—will be a result of ever increasing volumes of traditional imports more than a diversification of requirements.

Saudi Exhibit Center

Plans for a permanent exhibition center for building materials suppliers, the Jidda International Building Center, have been announced by a well-known Saudi Arabian company. In addition to display areas with space for up to 330 exhibitors, the center will offer related services, including a monthly newsletter, arranging of business appointments, and screening of technical films.

As the Saudi Arabian Government implements its large construction programs in housing, schools, medical facilities, and industrial plants, the center may fill the need of local designers, contractors, and government officials for information on new products and possible suppliers. Interested U.S. firms should contact: Ahmed Kabbani, National Marketing Company, P.O. Box 460, Jidda, Saudi Arabia.

Most promising categories

A more detailed examination of the most promising categories follows:

Construction and Transportation: The total annual value of construction over the next several years will be in the billions of dollars. This includes roads, ports, residential and commercial buildings, hospitals, airport development, and industrial plants. The demand for building materials and for construction, materials handling, and transportation equipment, already high, will continue to grow. Some of this equipment will be procured abroad directly by foreign contractors, but a great deal more will still be purchased locally by both Saudi and foreign contractors. Potential suppliers should focus efforts both on the local market and on identifying the international contractors winning new contracts.

Power Generation and Distribution: Burgeoning municipal demand and new industry are necessitating an enormous expansion of power generating capacity. A large share of the new power supply will be the responsibility of the Saudi Government's Saline Water Conversion Corp., whose planned dual purpose desalination/power plants will add some 5,000 m.w. capacity over the next ten years; but other private and government entities will be installing generating equipment as well. ARAMCO has been given responsibility for an eastern grid that will rival ConEdison in size. Requirements for distribution equipment will, of course, be correspondingly large.

Health: Health care is another high priority item in Saudi development plans. Although a number of hospital projects are already in various stages of development by various agencies, including the Ministries of Defense and Interior as well as of Health, the major increment in requirements for medical equipment and supplies will occur when the Ministry of Health begins the physical implementation of its five-year plan (by 1976). This plan envisages a nationwide health care delivery system including a network of over 90 hospitals of various sizes and specializations.

Consumer Goods: In spite of Saudi Arabia's relatively small population, a very high dependence on imports, together with increasing man-on-the-street affluence, makes for a larger and faster growing consumer market than might otherwise be expected. A rapidly growing expatriate

community is another positive factor for U.S. prospects.

Foodstuffs, particularly the staples of flour, rice, sugar and meat, represent a large component of total imports (traditionally between ¼ and ⅓, although recent surges in non-consumer imports have reduced this ratio). Processed foods, while enjoying increasing popularity, are a category in which price competition from Europe and East Asia is particularly stiff. The market for American automobiles is particularly strong, with price definitely a secondary consideration to the prestige, comfort, and durability factors associated in the public mind with the Detroit name. Unfortunately, lack of adequate servicing of the demand has significantly eroded U.S. dominance of the automobile market, just when it is becoming really significant. Audiovisual equipment—transistor radios, TVs, stereo sets—is another important consumer category, but one totally belonging to the Japanese at present. Home furnishings, appliances, air-conditioners, etc. will obviously be beneficiaries of the building boom.

Other important areas

There are other areas which are extremely important to the growth of U.S. sales to Saudi Arabia, but which are of little relevance to those not already firmly entrenched or in the running. These include civilian aircraft, avionics and telecommunications systems. Each of these categories involve sales of equipment running in the hundreds of millions of dollars over the next few years.

In sum, the overall trade outlook for Saudi Arabia is rosy indeed, but is not without its pitfalls. As noted above, this is not a market for everyone. Much of the growth will represent expansion of sales by already established suppliers. In other cases, though a potential market exists or will be developing, it will require patience and hard work to develop. Very frequently, sales can only be made in the context of manufacturer-provided support for servicing and training. Above all, new-to-market exporters must realize that developing business in Saudi Arabia will be time-consuming and expensive; the justification is that in the long run it will also be very profitable.

Saudi Hotels Are Booked Up

The American Embassy in Jidda warns travelers to Saudi Arabia that hotels in Jidda are already almost completely booked up for the upcoming period of the Hajj Pilgrimage (Nov. 1-Jan. 1). It is anticipated that about 1.5 million Muslim pilgrims will flood Jidda to visit the holy sites of Mecca and Medina this season. Business visitors should not proceed to Jidda unless they have written confirmation of hotel reservations.

Mexico's Growth Strategy Implies Increased Imports

Mexico continues to offer excellent prospects for the sale of U.S. products, according to Robert A. Kohn, Commercial Officer at the U.S. Embassy in Mexico City. While the rate of economic growth may be slower over the next 12 months, Mexico will remain one of the world's strongest buyers of U.S. products, particularly capital goods and agricultural products. The U.S. share of Mexico's import market may have reached 64 percent in 1974 and is expected to remain in that range in 1975. The government's policy of not permitting the economic growth rate to fall below 3.5 percent, combined with Mexico's massive food requirements for its growing population, will make continued high imports mandatory. The two devaluations of the dollar have made U.S. goods even more attractive, and revenue generated by growing exports of Mexican petroleum and continued availability of international credit should enable Mexico to pay for its increasing import bill in 1975 and beyond.

Mexico's gross domestic product increased by about 6 percent in real terms from 1973 to 1974, compared to a 7.6 percent increase in the previous period. Most observers anticipate an increase in real GDP of 5 percent or less in 1975. The lower growth rate this year reflects the world economic slowdown as well as the Government of Mexico's attempts to reduce inflationary pressures and shift resources to the agricultural sector, which has been more or less stagnant for a number of years.

Dealing with domestic inflation

Mexico's prices have been increasing at a faster rate than those in the United States over the past several years. While the government is unable to cope with the impact of world price increases on Mexico, it is attempting to deal with the domestic causes and effects of inflation. In late 1974 new taxes on gasoline sales were introduced and several other taxes, including income taxes on middle and upper income groups, were raised. Public sector expenditures are to increase substantially in 1975 but income is forecast to increase even more, reducing the need to finance the resulting deficit by inflationary financing from the central bank. The central bank has maintained tight controls on credit to the private sector, and the government has introduced a price control program that is aimed at permitting prices of many manufactured items to increase only when there are legitimate cost increases. Finally, to minimize the impact of inflation on lower income groups, the government has supported wage and salary increases in order to maintain real standards of living.

After many years of favoring the industrial sector of the economy, the government is turning its attention to agriculture. The negligible growth in this sector over the past ten years, while Mexico's population has been growing by 3.5 percent a year, has resulted in large imports of foodstuffs and reduced export availabilities of these products. The government is attempting to rectify this by increasing budget allocations for agriculture and undertaking structural reforms.

The growth rate of the manufacturing sector, which accounts for about one-quarter of the nation's output, is expected to slow down along with that of the overall economy. This reflects the anticipated slower growth in both internal and external demand, the relatively tight credit and the continuing stagnation of private investment. The latter factor has limited the capacity of this sector to meet demand and is also a factor in Mexico's inflation. Mining and petroleum, reflecting important discoveries in recent years, should grow at a rate well above that of the economy as a whole.

Mexico's trade deficit has increased dramatically over the past several years and reached $3.2 billion in 1974. Receipts from tourism and other services offset part of this deficit, resulting in a current account deficit of $2.6 billion, which was financed for the most part by foreign borrowing. Mexico's official reserves increased $37 million in the course of the year.

Mexico's short-term economic strategy appears to be to maintain a reasonably high economic growth rate and in no case permit it to fall below that of the population. The government plans to reduce inflationary forces gradually in order to avoid throwing the economy into a serious slowdown. Emphasis on agriculture should result in a higher growth rate in this sector, while anti-inflation policies will slow down growth in manufacturing. Mexico is concerned about the recent increases in its trade deficit and there is no indication that the government intends to abandon the import licensing system, which is used both to control the volume of imports and to protect domestic manufacturers. It is possible that "non-essential" imports will be curtailed through stricter licensing, and efforts are being made to divert public sector procurement to domestic sources.

The government's growth-oriented economic policies imply increased imports,

however, though the rate of increase should be less than in the past few years. Imports of foodstuffs will remain at a high level until domestic production can catch up to domestic consumption. Mexico's manufacturing sector will continue to require raw materials and capital goods from abroad.

The government hopes that exports of crude oil will offset increased import costs in 1975. While Mexico will require large-scale external financing this year, officials expect that beginning in 1976, increased oil procurement and exports of higher-priced refined items as well as exports of minerals (especially copper, silver, and phosphates) and import savings will permit a gradual reduction in the current account deficit and external borrowing requirements.

Aside from anticipated increases in petroleum, petrochemicals, mining, iron and steel, automobiles, and trucks, electricity, and to a lesser degree construction, all other industrial sectors are expected to grow less this year than last. Industry will continue to face production bottlenecks and limited productive capacity, especially in steel, chemicals, aluminum, cellulose, electrolytic copper, tires, and certain components for machinery. Large investments have been and are being made in certain key industries but for the most part these projects will not be completed before 1976-78. While the public sector is investing heavily in petroleum, electricity, mining, steel and housing, private investors are concentrating their investments in steel, cement, cellulose, paper, copper, zinc, chemicals, glass, tires, aluminum, automotive parts, trucks, synthetic fibers and popular items such as beer, soap and detergents.

Goods in strong demand

Goods to be used by the agricultural sector, such as tractors, new and used agricultural machinery, and storage and transportation of foodstuffs, will be in strong demand as a result of the massive infusion of public sector funds. Mexico still does not produce a wide range of capital goods, especially of the more advanced and sophisticated variety which must be imported in order to sustain economic development, but the country continues to advance in its priority policy of import substitution.

The greatest potential for U.S. exporters is in the field of modern, high-technology equipment and capital goods. Prospects for a wide variety of electronics products are excellent, especially computers, calculators and data processing systems. Fully automated process controls as well as industrial and scientific instrumentation are much in demand. Imported electronic security equipment is starting to make an impact on the market. Equipment for railroad expansion and modernization and for air traffic control also offers much potential for increased sales.

Equipment and instrumentation to measure and reduce environmental contamination is ensured ever increasing demand in Mexico. Industry has until January 1976 to comply with federal regulations on smoke and dust pollution and until January 1977 to complete work on the reduction of water pollution and waste. Regulations on noise pollution have not yet been promulgated but are expected before the end of the year. As a result of increasing government pressure, the private sector will be forced to buy a wide variety of anti-pollution devices.

In some key industries Mexico no longer imports finished products but is still dependent on the importation of raw materials with which to manufacture these goods. For example, the importation of finished glass products has become negligible as the domestic glass industry continues to expand and becomes increasingly more specialized.

Similarly, Mexico is no longer importing finished paper products. The need for large imports of cellulose and newsprint remains, however.

Mexico hopes to become self-sufficient in steel by 1978 and is in the midst of a major expansion effort. As a result, imports of raw materials for the steel industry such as ferrous scrap, coal, coke and iron ore skyrocketed in 1974. Imports would have been even higher were it not for the export restriction on U.S. scrap. Mexico will attempt to reduce these imports in the future by investing heavily in iron ore processing, coal mining facilities and metallurgical coke plants. The need for oxygen-injection steel systems, rolling mills, continuous casting systems, electric, blast and coking furnaces, and sponge iron plants could mean millions of dollars in sales for foreign manufacturers. Until Mexico attains self-sufficiency in this industry, it will remain an important market for steel materials and finished products such as pig iron, ferroalloys, re-rolling material, tin plate, flat and cold rolled sheet and iron rails.

In the essential area of power generation, Mexico is also making a major effort to expand and shift from petroleum-based energy to coal, geothermal, hydroelectric and nuclear power. Mexico's demand for electric power generating and distributing equipment will remain high for at least a decade. In addition to generators and transformers, Mexico will require much auxiliary equipment such as control panels and meters.

In sum, Mexico has achieved import substitution for almost all simple, mass-produced finished goods such as consumer durables, textiles and apparel, footwear, processed foods, cigarettes, soaps and detergents, beer and soft drinks. This means that future imports will have to be progressively more sophisticated and specialized, reflecting superior technology and production know-how. Often the volume of these imports are low but as each unit has a high price tag the value of U.S. machinery, equipment and instrumentation will be substantial.

The U.S. Trade Center in Mexico City provides an ideal showcase for American products.

Important sectors of Mexican industry have traditionally formed close ties with American firms. U.S. products are generally well-known and popular with Mexican consumers. Additionally, U.S. products enjoy the advantages of short delivery time, quick service and ready availability of spare parts. Lastly, the devaluation of the dollar in relation to most European currencies and the firm decision of the Mexican Government to keep the peso pegged to the dollar have substantially improved the U.S. price position relative to major foreign competitors.

While the United States continues to enjoy a commanding position in the Mexican import market, American exporters must maintain an aggressive stance and ensure that their product lines remain competitive in both price and quality. Strenuous and imaginative efforts by U.S. manufacturers are required to counter the inroads of European and Japanese private firms and trade missions and the effects of the official Mexican Government policy of trade diversification.

Pharmaceutical Manufacturers Have Opportunity In Dahomey

The Government of Dahomey has decreed that the state-run National Pharmacy Bureau (ONP) will henceforth have a monopoly over the importation of pharmaceutical and veterinary products. The Bureau is looking for new suppliers in order to diversify the traditionally French-manufactured line of products now sold in Dahomey. Total sales of pharmaceuticals in Dahomey reach $6 to $7 million annually. U.S. pharmaceutical manufacturers are invited to contact ONP immediately and to send samples of their products. Correspondence in French is preferred but not necessary. However, brochures accompanying products should be in French if at all possible. Write: M. Wallis Mamadou Zoumarou, Directeur General, Office National de Pharmacie, Boite Postale 697, Cotonou. Cable: ONP, B.P. 697, Cotonou.

Upper Volta Sets Trade Taxes

The Government of Upper Volta has introduced a customs stamp duty of 6 percent applicable to imports and exports, and an import surtax of 6 percent, by ordinance No. 75-1037 of July 1. The same decree increases the export statistical tax from 1 to 3 percent. These measures took effect on July 5.

Expanded Eximbank Role In Indonesia Improves Prospects For U.S. Exports

U.S. exports to Indonesia during the remainder of 1975 and into 1976 should increase generally as a result of continued expansion of the Indonesian economy but particularly as a result of the greatly increased role of the United States Export-Import Bank.

David H. Cohn, Commercial Officer at the U.S. Embassy in Jakarta, reports that U.S. exports to Indonesia last year, despite a 20 percent increase over 1973, failed to keep pace with increased U.S. imports from Indonesia. The main cause of the 238 percent increase in Indonesian exports to the United States in 1974, Cohn goes on, was the four-fold increase in prices of crude petroleum and petroleum products. Increased prices of other traditional trade items such as crude rubber, coffee, spices, etc., also were involved. This quantum jump in oil prices was the primary cause of the whopping deficit in the U.S. trade balance with Indonesia of $1.2 billion, according to U.S. data. (Overall payments between Indonesia and the United States, which include transfers of profits and other service payments, reveal a more nearly balanced picture.) Even excluding the value of petroleum exports to the United States in 1974, however, Indonesian exports to the United States rose some 65 percent to $415 million ($1,688 million in petroleum).

The value of U.S. products imported by Indonesia may have been greater than the $611 million given by Indonesian figures ($530 million in U.S. data), since it can be assumed that a significant portion of Singapore's $246.4 million and some of Hong Kong's exports to Indonesia probably originated in the United States. Even if this is true, the United States trailed Japan ($1.14 billion) as Indonesia's leading supplier. This relationship also held true with regard to Indonesian exports, where Japan took almost $4 billion and the United States $2 billion, using Indonesian data.

Following extensive consultations between high-level teams of the Government of Indonesia and Eximbank in the summer and fall of 1974, involving detailed analysis of the Indonesian economy and some Indonesian Government policy modifications, a number of major Eximbank credits were approved. These include cement plant expansion projects both for a U.S. investor with an Indonesian Government joint venture partner and a government plant; cutter suction dredges for harbors; a domestic satellite communications project; training aircraft and calibration equipment; highway construction equipment; cargo handling equipment; jet aircraft; gas turbines for power generation; passenger aircraft; a mining and refining project, etc. The total value of direct Exim credits since October is some $192 million, which will result in U.S. exports of about $589 million. These totals will not, of course, all be realized in 1975. Most, but not all, of those projects will involve the private banking sector since Exim direct credits will cover from 20 to 40 percent of the total U.S. export value; in a number of cases involving the Government of Indonesia's projects Bank Indonesia (the central bank) will provide the "commercial bank portion" of the financing.

Significant import changes

There will be significant changes in the Indonesian import market for two major commodities over the next 18 months or so. New orders for chemical fertilizers will drop precipitously. Indonesia has on hand well over a million tons of urea and TSP/DAP/NPK, which combined with increased production of its PUSRI urea plant at Palembang and continued output of the Petrokemia plant near Surabaya provides supplies sufficient to cover requirements until the 1976-77 wet season (October-March). Secondly, the more than doubling of the value of cement imports in 1974 over 1973 from $31.2 million to $68 million will not be repeated despite the continued, and perhaps increased, level of construction activity, because two new plants are coming on stream. A significant part of the increase in value of such imports in 1974 was a result of price rises; by amount the imports went from not quite 1.5 million tons to a bit more than 1.7 million tons.

Many U.S. traders will be curious about the impact on Indonesia's imports this year of the current situation involving PERTAMINA's (the Indonesian State petroleum company) finances. It is Cohn's judgment that the impact will be negligible in terms of the current overall level of imports and only marginal in terms of increases. Indonesia's debt level is well below its capacity to borrow in international money markets. This was clearly demonstrated by the concurrence of the International Governmental Group on Indonesia (the IGGI, made up of the World Bank, IMF, Asian Development Bank and 14 bilateral donors of funds for economic development) in Indonesia's judgment that an annual capital inflow level of $2 billion for each of the next three years is appropriate. Such inflow is projected to be almost all borrowing on a mixture of terms from concessional to commercial. Thus adjustments in scheduling of any of PERTAMINA's various projects will have little if any impact on Indonesia's continuously growing import requirements.

Those firms already in this market and not possessing a representational office have known that they must work closely with their agents, keep in touch with at least one of the four U.S. branch banks or 14 banks with representative offices, maintain contact with the U.S. Department of Commerce and visit the Embassy's Economic/Commercial Section in order to keep abreast of developments in Indonesia. Those firms not yet introduced to this market and becoming aware that Indonesia offers the unique combination of a nation with a wide range of commercially viable unexploited natural resources, and a population of some 131 million with a very low, less than $200 but increasing per capita annual income, should, at a minimum, visit their nearest Department of Commerce District Office to review opportunities. Others more interested should explore the ADS and TOPS programs for their products. Those seriously interested and motivated should be prepared to visit the country for a first-hand examination of opportunities. The U.S. Embassy there stands ready to assist them with detailed briefings and leads to specific opportunities.

Calendar For World Traders

Sept. 17—New York—International Executives Assn. luncheon meeting, Summit Hotel. Theme, Global Trade in 1976: Opportunities and Obstacles in a World of Moderate Economic Growth. Speaker: Alfred C. Holden Jr., Senior Economist, Bankers Trust Co.

Sept. 17—Seattle—Pacific Northwest International Trade Council Transportation Conference, SEA-TAC Motor Inn. Jackson Hearn of the Commerce Action Group for the Near East will speak.

Sept. 22-24—Knoxville—Conference on Doing Business in the Middle East, Hyatt Regency. Sponsors: University of Tennessee, Tennessee Department of Economic and Community Development.

Sept. 25—Seattle—Seminar on U.S. Eximbank Programs. Opportunities for Exporters and Bankers, Downtown Hilton. Sponsors: Washington State International Bankers Assn., Commerce Seattle District Office.

Oct. 6-8—New York—Field inspection and seminar on Protective Packaging for International Shipment, World Trade Institute.

Worldwide Business Opportunities

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors abroad. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about upcoming trade exhibits and trade missions, licensing and joint venture proposals, opportunities to sell to foreign enterprises and appoint agents, and details on major construction and expansion projects.

U.S. Promotions Abroad

For more facts on these and other U.S. exhibitions write: Director, Office of International Marketing, Rm. 4015, U.S. Department of Commerce, Washington, D.C. 20230. For trade missions: Rm. 4219, U.S. Department of Commerce, Washington, D.C. 20230.

Magasin General In-Store Promotion, Tunis. Sept. 29-Oct. 7. Magasin General, Tunisia's leading department store, will hold a special promotion of U.S. consumer goods in Tunis this fall. Tunisia is approaching one billion dollars as an import market, with a healthy economy fueled by increased production of petroleum and phosphate. Magasin General is interested in buying U.S. housewares, giftware, costume jewelry, cosmetics and beauty products, among other categories. The U.S. buying office for Magasin General is Retailers Representatives, Inc. Attn. D. H. Siebeck, 1372 Broadway, New York, N.Y. 10018. Mollie Cleveland, 202-967-4705.

Medical and Laboratory Equipment Exhibition. U.S. Trade Center, Sydney. Oct. 13-17. Sophisticated American medical and laboratory equipment garnered better than 32 percent of the Australian import market during 1974. The continuing technological superiority of American products, their accepted high quality, and recent Australian Government medical expansion programs are all factors which bode well for future sales increases. Contact Don McDonough, 202-967-2461.

American Fortnight 1975. Hong Kong. Oct. 18-Nov. 2. During the American Fortnight's city-wide promotion of U.S. goods, Hong Kong's major department stores will feature American-made consumer goods. Participants in the second American Fortnight are: Shui Hing, Wing On, Sincere, Dragon Seed, Crane Stores, and the Mode Elite group of fashion boutiques. This fall's event, greatly expanded over the 1973 Fortnight, will introduce and promote American products to the four million residents of Hong Kong and surrounding region. Special events are scheduled. Mollie Cleveland, 202-967-4705.

Food Processing and Packaging Equipment Catalog Exhibit. MACHEVO '75. Utrecht, Netherlands. Oct. 20-25. The Royal Netherlands Industries Fair in Utrecht is the site for MACHEVO '75, held only once every four years and the most important trade event in the Netherlands for the processing industries. The Commerce Department booth at this fair will display catalogs of American firms featuring machinery and equipment for food processing and packaging. Dutch industry is receptive to technological improvements, and recent changes in relative value of the dollar to the Dutch guilder make equipment purchases from the U.S. attractive. Call Robert E. Peterson, 202-967-3973.

Technical Sales Seminar on Advanced Metalworking and Metal Parts Finishing Equipment. Yugoslavia. Oct. 26-31. In response to strong and growing demand for American metalworking and metal parts finishing equipment, Commerce will arrange a seminar for seven American manufacturers. There will be seminar presentations in Belgrade and Zagreb to discuss the state of the art in the U.S. and hold discussions with purchasing authorities. W. Bradley Tyrrell, 202-967-5285.

Chemical/Petrochemical Processing Equipment and Technology Sales Seminar to Romania, Hungary and East Germany. Oct. 30-Nov. 13. Seven companies and a government-appointed chairman will present a technical symposium. Individual appointments for company representatives will be scheduled with purchasers and ministry officials in each country. Michael Goodwin, 202-967-4810.

Agriculture, Water and Food Equipment, AGWA-FOOD International Trade Fair. Tehran. Oct. 31-Nov. 6. Iran continues to be one of the fastest growing markets for U.S. exports in the world. Our exports almost tripled last year to a total of $1.7 billion. In the Iranian Fifth Plan, 1973-78, agricultural development has been assigned key priority. More than $4 billion will be invested in means to produce, process, transport and market foodstuffs. Particular emphasis will be given to increasing the area under irrigation, increasing silo capacity, expanding red meat and milk production and increasing farm productivity by formation of larger farm units through cooperatives and agribusiness enterprises. William S. Gaines, 202-967-4441.

Air & Water Purification & Pollution Control Equipment Exhibition. U.S. Trade Center, Milan. Nov. 6-12. Recent market research reveals that this is one of the Italian economy's fastest growing sectors. From a volume of $87.6 million in 1973, the Italian market is expected to jump to $386.8 million by 1978, an average yearly increase of 35 percent. This spectacular growth in demand for pollution control equipment caught Italian industry completely off-guard and it was not prepared to meet it. Consequently, imports in 1975 will be about $41 million and it is predicted they will jump to over $68 million in 1978, an average yearly growth of 19 percent. Sam Spaulding, 202-967-4508.

Microwave Components and Instrumentation Exhibition. U.S. Trade Center, Tokyo. Nov. 10-14. The Japanese microwave market is structured to accommodate imports based upon high technology, sophistication and quality. U.S. products which feature special surface processing, top quality raw materials and highly reliable precision made durable moving parts are much in demand in Japan. Their newly applied microwave technology is three to five years behind ours. Market information based upon microwave research recently prepared for this exhibition is available. Mara Yachnin, 202-967-5751.

Printing and Graphic Arts Exhibition. U.S. Trade Center, London. Nov. 10-14. Research has indicated strong U.K. markets for automated composition equipment, small offset and letterpress and multicolor printing and photographic equipment. U.S. sales in 1974 at $18.7 million were up 28 percent from 1972. Since 1970, this market's average annual growth rate has exceeded 20 percent. The British printing industries' shift to cold type and offset processes and increasing diet for multicolor printing, particularly for advertising, provide a strong market for U.S. advanced printing and graphic arts equipment. Bill Flanagan, 202-967-4461.

Educational Systems. U.S. Trade Center, Tehran. Nov. 16-20. Iran aspires to generate the same GNP as West Germany within ten years, using petrodollars as the industrial growth catalyst. The key ingredient to achieve this goal is a large pool of educated and trained Iranians. By 1978, 130 teacher training centers will be established, as will 500 technical and vocational training centers. Iran seeks the most modern methods to educate and train its people. This exhibition and accompanying seminar program will feature education technology systems, software, training aids and some hardware. Don Ryan, 202-967-4652.

Housewares and Portable Home Appliances Specialized Exhibition. Paris Trade Center. Nov. 17-20. The rapid rise of salaries and entrance of more French women into the workforce have resulted in fast-growing demand for sophisticated housewares and appliances. U.S. products in this field have the highest reputation in France for quality and innovation and, furthermore, the increasingly favorable dollar/franc exchange rate has made U.S. products more price competitive. This exhibition, "200 Years of U.S. Homemaking Tradition," encompasses portable electrical appliances, buffets and serving items, cookware and bakeware and home convenience items. Bill Dawson, 202-967-4941.

Non-Ferrous Metallurgy Products and Technology Technical Mission to Poland, Czechoslovakia and the Soviet Union. December. In each country, seven companies and a government-appointed chairman will present a technical symposium. A product exhibition will also be included in the Moscow segment. Michael Goodwin, 202-967-3376.

Metal Finishing and Surface Treatment Equipment Exhibition. U.S. Trade Center, Milan. Dec. 2-5. Beset by rapidly rising production costs stemming from continuing high inflation and wage increases averaging 20 percent per year since 1969, Italian businessmen are stepping up purchases of equipment, supplies and techniques which will help to contain costs. The trend toward more widespread utilization of advanced, labor-saving equipment has had a strong impact on the Italian market for metal finishing and surface treatment equipment and supplies, which increased from $52 million in 1972 to $63 million in 1974. Don Mathes, 202-967-2434.

U.S. Chemical and Petrochemical Processing Equipment and Instrumentation Trade Mission to Iran and Israel. Dec. 6-19. Both these countries give high priority to their chemical and petrochemical processing industries. The revised Iran Five-Year Plan calls for increased development at an average annual

rate of 17 percent in the chemical and petrochemical industries. The Israeli chemical industry plans to invest approximately $1 billion over the next five years in an effort to increase its productive capacity to meet rising world demand for phosphates, fertilizers and basic chemicals. William J. Bushwaller, 202-967-4511.

Electronic Components. Paris Trade Center. Dec. 8-12. The French electronic component industry is expected to expand at an annual rate of between 15 and 20 percent in the next several years. The value of imports is forecast to approach $155 million in 1977. U.S. manufacturers were the source of more than one-third of France's annual imports in recent years and can anticipate sales to France in excess of $50 million in 1977. Included in this exhibition are integrated circuits, transistors, capacitors, resistors, diodes and rectifiers and color TV picture tubes. Call Myra L. Triplett, 202-967-5381.

Advanced Business Equipment and Materials Exhibition. U.S. Trade Center, Stockholm. Dec. 8-12. Sweden, Norway, Denmark and Finland, import-oriented markets with rapidly expanding demand for U.S. business equipment, offer excellent opportunities to U.S. exporters. U.S. exports to the area rose to $24.2 million in 1974, 49.5 percent over 1973. The market for business equipment in Sweden, the major Scandinavian market, is rapidly approaching $200 million and is expected to grow at a rate of 14 percent per annum for business machines and 20 percent for consumable auxiliary materials and accessories in the 1975-79 period. Call Robert J. Blake, 202-967-3088.

American Toy Fair. U.S. Trade Center, Tehran. Dec. 14-18. Iran is one of the fastest growing markets for American goods. Fueled by an influx of 20 billion petrodollars last year, per capita GNP doubled between 1972 and 1974. The rising level of affluence is reflected in drastically increased consumer demand. The Iranian market for toys has been artificially held back by high import duties and taxes, designed to protect local industry. Since pent-up demand for toys far surpasses the ability of Iranian industry to satisfy, the Iranian Government has eliminated the 100 percent import tax on toys. Don Ryan, 202-967-4652.

In-Store Promotion. Blokker, Amsterdam. Christmas 1975, April 1976. Gebr. Blokker B.V. will hold a major promotion of U.S. consumer products in its 42 retail stores. U.S. products will also be advertised in the Blokker Christmas catalog and in the April 1976 catalog. Store contact is: J. Blokker, Director, Gebr. Blokker B.V., Van der Madeweg 13, Amsterdam, Netherlands. Mollie Cleveland, 202-967-4705.

Aviation Electronics and Ground Support Equipment Trade Mission To Nigeria, Botswana and Zaire. January. Sales of all communications and flight instrumentation commonly found in civilian aircraft, and all terminal support equipment, as well as products used to test and service aircraft and aircraft engines, will be promoted. All three countries give high priority to airport and related electronics and ground support equipment in their development plans. Nigeria has a massive airport expansion program and abundant foreign exchange from oil revenues. Copper is the keystone of the economies in Zaire and Botswana. E. Lee Carteron, 202-967-2973.

Clothing USA Exhibition. U.S. Trade Center, Milan. Jan. 6-9. Due to the interest shown in the "Men's and Women's Sportswear and Casual Clothing" JEEP and the "Children's, Infants' and Juniors' Apparel" JEEP, these two events have been combined into a larger exhibition entitled "Clothing USA." Italy offers a promising market for these types of apparel because of the continuing trend towards a more casual lifestyle and shift in consumer demand to ready-to-wear apparel. Convenience-type clothing emphasizing ease of care, wash-and-wear fabrics and flame retardant fabrics have especially good sales potential. Also, participants in this exhibition may take advantage of another excellent market by displaying their merchandise at the Amerika Haus in Vienna, at the close of the Milan event. Anno Corro, 202-967-3945.

Computers and Peripheral Equipment and Systems Exhibition. U.S. Trade Center, London. Jan. 12-16. The United Kingdom is one of the world's largest markets for digital computers and peripheral equipment. In 1973 apparent consumption was $659.8 million. In 1974 U.S. exports to Britain of equipment covered by this exhibition were valued at $199 million (f.o.b.), with the United Kingdom accounting for 12 percent of U.S. world exports. In the same year direct exports to the Republic of Ireland of U.S. digital data processing hardware covered by this exhibition were valued at $12.7 million. Targets will be agents and distributors, British and Irish end-users, and systems manufacturers. Mike Frisby, 202-967-4462.

Health Care Industries Exhibition, U.S. Regional Trade Center, Singapore. Jan. 13-16. In an attempt to make Singapore the medical center of Southeast Asia, the Government of Singapore has launched a $50 million program for expansion and modernization of health care facilities. The Ministry of Health will spend $8 million for imported equipment in 1976 and similar amounts in following years. Pete Wilson, 202-967-3893.

Hotel, Restaurant and Catering Equipment Exhibits. Paris Trade Center, Jan. 26-29; Lyon, France, Feb. 3-5. The market in France offers strong prospects for American manufacturers of hotel and restaurant equipment. The need for expansion and modernization in the tourism industry has been recognized and the French Government is providing various incentives to stimulate such investment. Industry, schools and hospitals are expanding catering and service facilities. Demand for U.S. equipment, in particular that incorporating labor-saving features, is in strong demand. Furthermore, the downward valuation of the dollar relative to the franc helps give U.S. firms a price advantage. The French are expected to invest about $1.5 billion on hotel, restaurant and ancillary equipment during the 1975-78 period. Beryl Cohen, 202-967-4961.

Advanced Packaging Equipment Exhibition. U.S. Trade Center, Mexico City. Jan. 26-30. Mexico's advancing industrialization to serve a growing and increasingly sophisticated population has resulted in many opportunities for manufacturers of a broad range of packaging machinery. This U.S.-oriented market purchases about two-thirds of all its packaging machinery in the United States because convenience in delivery, servicing facilities and familiarity with the American product are important. Reserve space now as past packaging events have been sellouts. Mary Wiening, 202-967-4463.

Analytical Instruments for Science and Industry Exhibition. Frankfurt Trade Center, Jan. 27-30. The German market for laboratory instruments amounted to $218 million in 1974 and is expected to reach $280 million in 1979. The U.S. is expected to account for almost $50 million by 1979. This market is expected to grow as a result of large private investments, a significant government budget, expanding technology and the superior quality of U.S.-made analytical laboratory equipment. More than one-third of all imported equipment and 15 percent of the entire laboratory instrument market is supplied by firms in the United States. Maurice Peter, 202-967-4256.

Port and Shipyard Equipment Trade Mission to Greece, Yugoslavia and Italy. February. Major port improvement and expansion projects, coupled with reopening of the Suez Canal, which is expected to increase ship repair business and cargo tonnages significantly, offer tremendous opportunities for U.S. manufacturers. Among products/services offering best potential are: container terminal equipment, port traffic control equipment, conveyors for transporting bulk cargo, refrigeration warehouse equipment, shipbuilding, ship supply and ship repair equipment, and engineering and port design services. Call E. Lee Carteron, 202-967-4511.

African Semi-Arid Land Development Applications and Technology Seminars. February and May. Two separate events are planned that deal with large-scale land development in semi-arid regions of Africa. There will be seminar sessions in Central African countries of Nigeria, Sudan and Botswana in February and the North African countries of Algeria, Morocco and Tunisia in May 1976. Discussions with key governmental and large-scale agricultural land developers encompass applications associated with soil preparation, irrigation and maintenance; crop planting and irrigation; animal husbandry including poultry and other livestock maintenance; agricultural chemicals' utilization and applications; crop storage; farm machinery and other agricultural engineering techniques and programs. Fred Crosley, 202-967-5285.

Exhibit/Seminar on Air Pollution Instrumentation, Monitoring Systems and Control Technology. Moscow. Feb. 2-6. The purpose of this exhibit/seminar at the U.S. Commercial Office in Moscow is to explore trade opportunities for U.S. air pollution equipment through discussion with a highly selected group of Soviet foreign trade officials, scientists, technicians and end-users. Each participant (limited to seven companies) will be responsible for mounting a small exhibit and presenting a technical paper. Selection of exhibitors will be based on achieving a balanced presentation of equipment and technical papers. Judith Robinson, 202-967-3376.

Educational and Industrial Training Equipment Exhibition. U.S. Trade Center. London. Feb. 2-6. Directed to local education authorities, headmaster conference schools, universities, professional colleges—both military and civilian, 23 industrial training boards, and training and resource centers in the United Kingdom. Targeted to vocational and management training (administrative, marketing and sales) as well as to academic end-users this exhibition will be of special value to U.S. producers whose audio-visual instructional systems are versatile enough to encompass more than one application. An import market of $55 million growing at a rate of 8 percent per year, the United Kingdom was one of the world's largest dollar earners in 1974 for U.S. exports ($26.4 million) covered by this exhibition. The Republic of Ireland will be included in the market promotion campaign as a supplemental market. William Flanagan, 202-967-4461.

Industrial and Environmental Noise and Vibration Exhibition and Seminar. U.S. Trade Center, Tokyo. Feb. 2-6. Market capacity and magnitude for noise and vibration instrumentation in Japan is affected generally by the intensity of industrial and environmental pollution and earthquake problems. Public nuisance control is an acute problem and the central and local governments have enacted drastic legislative countermeasures. Product content for this exhibition includes

analysis and measuring equipment, control instrumentation, acoustically-rated architectural equipment used for acoustical performance, earthquake test and measure systems, hearing test and production equipment. Don McDonough, 202-967-4057.

Laboratory Instruments Exhibition. U.S. Trade Center, Stockholm. Feb. 3-6. The Swedish market for laboratory instruments, $74 million in 1974, is expected to expand 17 percent yearly through 1979. Sectors projecting highest growth (100 percent) in the 1974-1979 period are medical, educational and governmental laboratories. Sweden, highly dependent on imports of laboratory instruments, exported 80 percent of its domestic production in 1973 while imports amounted to 86 percent of the domestic market. U.S. exporters are very competitive in Sweden, with 24 percent of the import market in 1974 and an expected 26 percent by 1979. Combined import markets in Norway, Denmark and Finland approximate $140 million, of which U.S. direct sales accounted for $19 million or a 13 percent share last year. Prospects for increased sales are bright. Maurice Peter, 202-967-4256.

Industrial and Commercial Security Devices and Systems Exhibition. Feb. 10-13. Singapore Regional Trade Center. In Singapore and the regional market area of Hong Kong, Indonesia, Malaysia and Thailand these products have high potential for sustained sales growth. The total Asian market for security related systems and devices is still relatively young; no one exporting country controls a major portion of the Far East market area. Therefore, aggressive U.S. firms with reliable products can enter this competitive market with very good opportunities for increasing sales. Participation is limited. J. Lee Barnes, 202-967-3894.

Hi-Fi Equipment and Electronic Musical Instruments, Milan, Feb. 16-19. A special opportunity to show and sell the latest in hi-fi equipment and electronic musical instruments is being offered to a limited number of American manufacturers. The U.S. Trade Center staff in Milan will launch an exceptional promotional campaign aimed at the widest possible trade and consumer audience exposure; amplifiers, speakers, synthesizers, electric guitars, electronic organs, and pianos are some of the items that will make up the exhibition. Mike Springmann, 202-967-3957.

Woodworking Equipment Exhibition. U.S. Trade Center, Taipei. Feb. 16-20. By 1976, Taiwan's imports of woodworking equipment are expected to exceed $10 million. The U.S. share of these imports is expected to increase from 6 to 8 or 9 percent. Taiwan has an internationally competitive woodworking industry. It is the second largest supplier of plywood to the U.S. (over $200 million). Exploding markets for its knocked-down furniture sector are in the U.S., Japan and Australia. The third segment, hardwood handicraft, is also doing a thriving overseas business. Now is the time to get woodworking equipment to the Taiwan market, which is moving ahead again after the world economic slowdown. Andre Williams, 202-967-2396.

Process Measurement and Control Technology Seminars to Korea, Taiwan and Hong Kong. Feb. 16-27. Plastic, synthetic fiber and other petrochemical industry processing is expanding in the Far East. Many firms in these industry segments are seeking new techniques to increase productivity and quality. The Republic of China Government alone is investing over $500 million. These potential customers are unaware of what American companies have to offer them. These seminars are designed to persuade customers to buy from participating panel members. Fred Crosley, 202-967-5285, for information.

Scientific, Medical, and Industrial Instrumentation Catalog Exhibit. India. Feb. 17-27. A potentially lucrative market exists for U.S. suppliers of sophisticated instruments in these fields. Imports of products with advanced design have risen steadily in the last three years, and this trend is expected to continue for the next three. The rate of growth is estimated at 25 percent per year, with the U.S. share at about 25 percent of the $25 million total. Bombay and New Delhi will be the sites for February, with subsequent exposure of the catalogs in Calcutta and Madras. Robert E. Peterson, 202-967-3973.

Pro-In '76, International Design Engineering Conference and Exhibition. Duesseldorf. Feb. 21-25. This exhibition, the first of its kind in Germany, will feature components, materials and technologies. It is international in scope and is structured to reach a broad market. Included are: materials, shapes and forms, mechanical and power transmission components, fluid power — hydraulic and pneumatic, electrical and electronic power and control and joining systems and components. Don Schmadel, 202-967-2177.

Chemical/Petrochemical Processing Equipment and Instrumentation Exhibition. U.S. Trade Center, Mexico City. Feb. 23-27. The chemical/petrochemical industry is one of Mexico's most dynamic, growing at an annual rate of 15 percent. Between now and 1980, Mexico must invest $520 million per year in new plant and/or expansion programs to satisfy domestic demand for chemical products. This means heavy purchases of equipment and instrumentation. Aggressive U.S. firms should find excellent opportunities to initiate or increase sales in this expanding market. Participation is limited. Anita F. Brownstein, 202-967-4464.

Building Materials and Construction Equipment Trade Fair. Saudi Arabia. Feb. 23-28. Saudi Arabia is faced with the dilemma of how to modernize while still preserving traditional values. Its five-year development plan will inject about $100 billion into the economy and bring half a million foreign workers into the country. Specific goals of the plan are expanded health, education, and general welfare programs; construction of over 100,000 new homes per year; continued improvement in already established transportation, port, and communications infrastructure; accelerated development of industry, especially petroleum refining and petrochemicals, fertilizers and extraction and processing of mineral resources; and expansion of agriculture. Commerce is offering a uniquely integrated approach to these developments with a trade fair of 50 firms. Franc D. Manzolillo, 202-967-2515.

Business Equipment Exhibition & Seminar. Singapore Regional Trade Center. Feb. 24-27. The competitive regional market of Singapore, Malaysia, Indonesia and Thailand presents aggressive U.S. firms with lucrative sales opportunities. Imports of business equipment into Singapore alone in 1974 were $18.1 million, with some $4.9 million coming from the U.S. Participation is limited. J. Lee Barnes, 202-967-3893.

Process Control Instrumentation and Equipment Exhibition. U.S. Trade Center, London. March 1-5. The United Kingdom, one of the world's most industrialized and technologically sophisticated nations, has a high level of demand for process control instrumentation and equipment. Sales of these products fluctuated between $165 and $176 million annually during the 1970-73 period. Products of American design continue to dominate the market and should supply a major portion of the $190 million in sales projected for 1978. J. R. Crown, 202-967-2888.

Industrial Maintenance and Plant Operations Exhibition. U.S. Trade Center, Milan. March 2-6. Italy's need for a higher degree of mechanization of maintenance equipment, stricter enforcement of labor safety and accident prevention legislation and a recognition of the part that materials handling equipment can play in maintaining or increasing profit margins, point towards a successful exhibition. Commerce will launch an intensive promotion aimed at attracting major end-users not only in Italy but also those in surrounding countries. Exhibits will include noise analyzers, resuscitators, explosion protection systems, power sweepers, incinerators, dust collectors, trash compactors, fume and gas scrubbers, conveyors, work trucks, remote control devices, etc. Will run concurrently with and at the same location as the International Heating and Ventilation (H-VAC) Show. Sam Spaulding, 202-967-4508.

Printing and Graphic Arts Equipment Exhibitions. Paris Trade Center, March 8-11; Stockholm Trade Center, March 8-11. Strong and growing demand for PGA equipment in France and the Scandinavian countries has been identified by market research. PGA equipment sales in France are expected to expand at an average annual rate exceeding 11 percent in the 1972-1977 period, reaching $264 million in 1977. Scandinavian demand for U.S. PGA equipment resulted in U.S. exports to the area in January-June 1975 at a rate of 17.6 percent above the $28.2 million total for 1974. U.S. producers should be active in these markets, where dependence on imports for PGA equipment runs as high as 80 percent. Charles M. Whitley, 202-967-5381.

Microwave Technology Exhibition. U.S. Trade Center, Frankfurt. March 9-12. The U.S. is Germany's principal foreign supplier of all types of microwave products and our share of the overall market exceeds 40 percent. This exhibition will embody the complete engineering and product areas of the microwave industry which are: antennas, materials, passive components, semiconductors, solid state components, systems and subsystems, tubes and amplifiers, test instruments and equipment. A technical conference will also be included. Leslie Pierson, 202-967-2177.

Industrial Process Control, Measuring and Laboratory Instrumentation Exhibition. Leipzig Spring Fair, East Germany. March 14-21. The first U.S.-sponsored exhibition at Leipzig will feature industrial instrumentation primarily applicable to the chemicals industry, including plastics, as well as the metallurgy, machine tools, and pulp and paper industries. These sectors are scheduled for heavy automation during the present and next East German five-year plans. This U.S. exhibition promises to attract an unusual amount of attention from East German buyers, and also buyers from the Soviet Union and other countries of Eastern Europe. Sept. 30 is the target date for full recruitment of U.S exhibitors. Judith Robinson, 202-967-3376.

AM-TECH '76. Exhibition of U.S. Business Machines, Computers and Graphic Arts Equipment. Ellerslie Race Course, Auckland, New Zealand. March 15-19. AM-TECH '73 attracted 5,300 registered trade visitors and resulted in immediate sales of $1.9 million. Irwin Nathenson, 202-967-2963.

Computer '76. U.S. Trade Center, Tokyo. March 15-19. The theme of this exhibition is computers and related equipment: general purpose digital computers and peripheral equipment, and data transmission equipment. Call John Wolf, 202-967-2461.

Materials Test and Quality Control Equipment Exhibition. U.S. Trade Center, Milan.

March 23-26. Italy's extensive, sophisticated, manufacturing complex in the metal, mechanical, electro-mechanical and electronic product areas looks to the U.S. for advanced materials test and quality control equipment. Production, research and development engineers of Italian automotive, aircraft, railway, power generation, home appliance, machinery and electronic manufacturers and metal processors will attend. Non-destructive testing equipment; circuit testers; shock, vibration, stress measuring equipment; crack and seam testers; metallurgical test equipment; electron microscopes; and industrial x-ray equipment are among many items of special interest. Imports are estimated at $80 million annually. Philip Christenson, 202-967-4508.

Hospital and Medical Equipment Catalog Exhibit. Johannesburg and Cape Town. March 29-April 9. The import market in South Africa for pharmaceuticals, hospital and medical equipment totaled $86 million during the first 11 months of 1974, an increase of 23 percent over the 12-month level of $70.2 million in 1973. A number of hospital expansion projects are planned or are already under way. Nine new hospitals are scheduled for completion in Transvaal Province by the end of 1980. Before 1983 the Transvaal Provincial Authority plans to construct additional facilities for 2,250 beds in four locations. Robert E. Peterson, 202-967-3973.

In-Store Promotion. Kendal Milne (House of Fraser), Manchester. April/May. Kendal Milne, a leading department store in the English Midlands and regional headquarters for the House of Fraser, largest retail group in the U.K., will stage a U.S. Bicentennial promotion in April/May. Store contact is Miss Ann Leuty, Kendal Milne, Deansgate, Manchester M60 3AU, U.K. U.S. buying office is Associated Merchandising Corp., Attn. Henry E. Miller, 1440 Broadway, New York, N.Y. 10018. Mollie Cleveland, 202-967-4705.

Metallurgical Equipment and Instrumentation. Mexico City Trade Center. April 5-9. As rapid growth of steel production is one of Mexico's primary developmental goals, vast investments in the iron and steel industry continue unabated. In addition, considerable outlays are being made to increase Mexico's aluminum and copper-making capabilities. As such expansion programs, relying heavily on imported equipment and expertise, offer considerable sales potential for U.S. suppliers, Commerce is sponsoring an exhibition of the latest equipment and instrumentation used in metal founding, working and finishing. Mary R. Wiening, 202-967-4463.

Security and Safety Equipment Exhibition. Frankfurt Trade Center. April 6-9. The German market for security and safety equipment is expected to reach $554 million by 1976. Excellent opportunities exist for American manufacturers since U.S. products are considered technically superior. Department and retail stores, as well as other industries in Germany, are continually on the lookout for newer and more sophisticated security and safety equipment. Best market prospects for safety equipment are the building trade, iron, metalworking, automotive, stone and clay industries. Robert Wallace, 202-967-3748.

Industrial Process Control Instrumentation Exhibit. U.S. Trade Center, Tokyo. April 19-23. It is estimated that this Japanese market by 1978 will reach $550 million, of which the U.S. share will be $57 million or approximately 10 percent of total consumption. Of total imports, $70 million for the year 1978, the U.S. share will represent 81 percent. Dan Chambers, 202-967-5751.

Food Processing and Packaging Equipment. Stockholm Trade Center, April 26-29; Paris Trade Center, May 4-7. Expanding demand for convenience foods and strong growth in export markets for Nordic specialty food products are expected to boost the Scandinavian market for food processing and packaging equipment from an estimated $290 million last year to $440 million by 1978. Imports supply over three-fourths of the region's requirements with direct U.S. sales projected to more than double, from $23 million to $54 million or a 15 percent share. Spurred by growing patronage of supermarkets, France's food processing industry is expected to increase outlays for relevant equipment from $434 million to nearly $600 million in the 1974-78 period. Imports are foreseen to increase even faster with more than a doubling in U.S. sales to about $20 million. The high regard for U.S. equipment, relatively greater price increases for European machinery and growing requirements for long-run, high-capacity equipment offer a bright sales outlook in both markets for U.S. manufacturers who may participate in one or both of these "tandem" exhibitions. William Beiring, 202-967-3276.

In-Store Promotion. Nouvelles Galeries, Paris. April 26-May 29. American Bicentennial promotion of a variety of U.S. consumer products. Special exhibits will be featured in many of the 60 participating stores throughout France. The U.S. buying office is SONAC-Nouvelles Galeries, Attn. Bernard Chene, 11 W. 42nd St., New York, N.Y. 10036. Mollie Cleveland, 202-967-4705.

In-Store Promotion. David Jones Ltd., Sydney. May. David Jones Ltd., the largest department store chain in Australia, will stage a major promotion of U.S. consumer products. Eighteen of its stores throughout the country will feature a wide variety of U.S. goods, plus special exhibits and attractions. U.S. buying representatives for David Jones are: R. W. Cameron & Co., 420 Lexington Ave., New York, N.Y. 10017; and Frederick Atkins Inc., 117 West 9th St., Los Angeles, Calif. 90015. Mollie Cleveland, 202-967-4705.

Petrochemical Equipment & Processes. Budapest International Spring Fair. May 19-27. The petrochemical industry has consistently enjoyed the highest growth rate of all industrial sectors in Hungary. A large percentage of investments in this industry have been spent on imports from the West. Jim Robb, 202-967-4810.

Textile Machinery & Fiber Technology, INGLEGMASH-76. Moscow. May 25-June 8. Modernization of the Soviet textile industry is resulting in large imports of specialized textile machinery and fibers' technology. In the current 5-year period, production of knitted goods is planned to grow by 50 percent and some chemical fibers by 80 percent. Continued growth in these areas under the next 5-year plan offers increased opportunities. Dick Bell, 202-967-5163.

Machine Tools, Metalworking and Shipbuilding Exhibition. Bilbao, Spain. June 21-26. Spain's economic growth continues. Whereas most of Western Europe has forecast almost no growth for 1976, Spain is expecting to achieve a 3 percent rise in GNP. Part of this development is attributable to Spain's expanding metalworking-finishing industries, where the current import market is estimated at some $90 million. Included are the more advanced classes of electrical-discharge and electro-chemical machines, numerical and computer-controlled machines, and all classes of multiple operation and automatic and semi-automatic machines. Local manufacturers are now looking for large automated equipment which is superior to European equipment; flexibility and productive capacity are more important than price. Roger Turner, 202-967-3957.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Foreign Investment Services Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to any of the specific proposals listed.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce District Office.

OPIC indicates that the country involved is eligible for investment insurance coverage and financing from the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

1492—GREECE—Seeks joint venture for **exploration of gypsum surface deposits** at Chryssopigi, Sitea, Crete. Will also consider sale or lease. Deposit is on 125 acres of land, extend over 495 feet deep, is 12 miles from deep water port at Sitea. Electric power and water available, and there is road access. Economic factors could be favorable for integrated facility including mining, grinding, calcining, gypsum products manufacturing and shipping. Owner has trading and hotel interests. Dennis Giannakiakis, 60 Eleftheriou Venizelou St., Sitea, Crete. Telephone: 0843-22335. P-75615. OPIC.

2032, 2834 — ISRAEL — Seeks licenses to manufacture **pediatric products** and **medicated baby foods.** Established in 1961, firm employs 32, has annual sales of about $450,000. It manufactures baby foods and selected pharmaceuticals, mainly for pediatric use. Dr. Stephen A. Landes, Remedia Pharmaceutical & Medicated Baby Foods, P.O.B. 33111, Tel Aviv. P-75597. OPIC.

2099, 2844—ISRAEL—Food processing company seeks know-how for processing **avocados** for any use. Established in 1973, company manufactures about 40 different products of which about 85 percent is exported. Employs 90-100 persons, according to season. Yehuda Shay, Manager, Gan Shmuel Canning Factory, Mobile Post Shomron. P-75606. OPIC.

2221, 3079—UPPER VOLTA—Seeks joint venture to establish **plastics factory to produce tile, pipe and upholstery fabric.** Need for U.S. investment estimated to be $350,000 for building construction and processing machinery. Upper Volta firm, composed of government official and local entrepreneurs, own importing company with capitalization of $10,000. Company offers to retain local private economic consultant firm to prepare feasibility study. Aboubacar M. Nacro, Design Services, Ouagadougou. P-75604. OPIC.

3291 — GERMANY — Seeks exchange of know-how with U.S. manufacturing company in **grinding wheels for industrial applications, including diamond grinding wheels.** Presently produces diamond grinding and cutting wheels, tools and equipment. Established in 1890. Guenther Krebs, Krebs & Riedel KG Schleifscheibenfabrik, D-3522 Karlshafen/Weser, Postfach 1127. Telephone, 05672-181; telex, 09-94810 KREBS D. P-75608.

3321—JAPAN—Medium sized manufacturer of carbon and alloy steel castings seeks license. Wants to produce **wear resistant alloy steel castings** (other than those of austenitic structure) **to be used as jaw plates for crushers, liners for ball mills and other parts of heavy machinery.** Currently, firm fabricates wear resistant parts for heavy machinery made from manganese alloy steel castings of austenitic structure. It has found, however, that wear resistance of austenitic alloy steel is not always great enough to meet recent requirements of cement manufacturers and other end users of large size crushers and ball mills. Company employs 300, has annual sales of $8 million. U.S. Embassy, Tokoyo, APO San Francisco 96503. P-75599.

3494—GERMANY—Desires to expand its production program and seeks **licenses from U.S. manufacturers of similar or related products for use in electric power generating plants, including those using atomic fuel.** Manufactures, distributes and exports mechanical equipment and systems for control, measurement and regulation of level, pressure, temperature and throughput. Founded in 1905; has annual sales of 2.5 million. Firm has representatives or agents in Austria, Belgium, Denmark, Finland, France, Hungary, Italy, Luxembourg, Netherlands, Norway, Spain, Switzerland, Turkey and Yugoslavia. Helmut Hannemann, Reglerbau Hannemann GmbH & Co. KG., 64 Reisholzer Werftstr., 4 Duesseldorf-Holthausen. P-75611.

3500 — GERMANY — Machinery manufacturer seeks cross licensing and distribution arrangements. Is interested in manufacturing and sales rights for following types of machinery: **medium and heavy coil winding machinery and equipment; hydraulic presses; insulating machinery; insulating tube winding machinery; winding and bending machinery; taping machinery; lacquering equipment; packing machinery;** and **special types of tooling machinery fitting into above categories.** In turn, firm seeks **U.S. distributors for its coil winding machinery.** Presently, company makes coil winding and insulating machinery for domestic and export markets. Has staff of 100, including 15 traveling salesmen. Enjoys good business reputation, financially sound. Herr Rieker, Manager, H. F. Stollberg Maschinenfabrik GmbH, D-6124 Beerfelden, Odenwaldstrasse 12-14. Telephone, 06068-1385; telex, 04-191606; cable, Stollberg Beerfelden. P-75603.

3500—JAPAN—Seeks license to manufacture **advanced scale removing machinery** for use on boilers, pipes and tubes. Firm believes there will be increased utilization of this technology in various industrial fields. Japanese company imports and distributes automatic control units, pneumatic and hydraulic machinery, chemicals and other products. Firm has agency agreements with several U.S. producers, maintains branch offices in major cities. Employs 80. Hiroshi Hagiwara, Manager, Development Section, Pacific Projects Trading Co., Ltd., Kyodo Bldg., 10, Nihonbashi Muromachi 1-chome, Chuo-ku, Tokyo 103. P-75601.

3531—ISRAEL—Large company seeks license to **manufacture 10-cu. ft. truck mounted concrete mixers, possibly 2 mixers to a vehicle. Mixers would be hydraulic powered, independent from motor of truck.** Firm presently makes 6-7 cu. ft. concrete mixers powered by mechanical devices that can be mounted on semi-trailers; employs 2,500. According to company, there is only one producer of 10-cu. ft. concrete mixers in Israel. Gad Kfir, Industrial & Management Eng., Solel Boneh Ltd., 126 Allenby St., Tel Aviv. P-75600. OPIC.

3545—INDIA—Seeks American partner to provide technical know-how for production of **precision measuring instruments such as vernier callipers, micrometers, height and depth gauges and protractors.** Firm produces press tools and pressed parts for several well known foreign companies. In addition, it produces electric motor stampings and automobile spare parts. Plant facilities include tool room, grinding and electroplating machines and heat treatment plant. Proposes to manufacture in first year of production, 250 vernier callipers, 100 micrometers, 50 height gauges, 50 depth gauges and about 100 protractors. In second year, it plans to double production. Requirements of machinery and equipment for project will be determined in consultation with prospective partner. Squadron Leader A.K. Kundoo, Senior Executive, Chaphekar Engineering Private Ltd. (CEPL), II Phase, MIDC Plot 36, Central Road, Andheri, Bombay 400 093. WTDR. P-75612. OPIC.

3549—GERMANY—Manufacturer specializing in **wire drawing and special welding machinery** seeks cross licensing agreement. Firm's interests include twist stranders and double twist stranders; welding machinery (double seam, circular seam, socket, bend, longitudinal); and wire drawing machinery. Company markets its products throughout Europe and Near East. Employs 100. H. Rolfes, Univers Maschinenbau GmbH, D-6349 Hoerbach/Dillkreis, Schoenbacherstrasse. Telephone, 02772-40061; telex, 0873405. P-75613.

3613—UNITED KINGDOM—Manufacturer of **electrical accessories seeks license to make complementary products.** Firm is particularly interested in production of new electrical devices. Presently, company manufactures plugs and sockets, plug units and various types of fuses. It employs 250 and is member of large group. A. Stamp, Reyrolle Belmos (Ashington), Ashington, NE63 8UG, Northumberland, England. P-75598.

3600—MEXICO—Large company seeks joint ventures, similar agreements with U.S. manufacturers of **electrical, electronic products.** Mexican firm has capacity to handle new lines. It presently produces electronic components, assembles radios and television sets and sells to consumer market. Reports 1974 sales of over $12 million, employs 2,300. Well regarded firm. Ing. Patricio Rivero, Industria Nacional Electronica, S. A., General Pedro Antonio De Los Santos 70, 3 ER Piso, Mexico 18, D.F. Telephone: direct dial from U.S., 905-516-9970. P-75602.

3662—SWITZERLAND—Leading manufacturer and representative of sophisticated security systems seeks to expand present business. Desires to enter into fields in which it has not been engaged, such as **novel type of sensors for use with intrusion alarm systems, capacitive and seismic detectors, ultra sound detectors; radar and infra-red detectors for use with area protection systems used to secure facilities, such as nuclear power plants, military installations; small sensors for applications, such as prevention of theft of paintings and other items of high value.** Swiss firm is connected with the Securitas group of companies which includes manufacturers of security systems, fire alarms, is supplier of security systems to army and other government agencies. Firm has modern manufacturing facilities, employs 300 and is active in R&D. Sales network covers Switzerland, Germany and other European countries. A 24-hour after sales service is also maintained. Mr. Molinari, Securiton AG, Alpenstr. 20, 3052 Zollinkofen. P-75609.

3679—TURKEY—Seeks license or joint venture to manufacture **ferrite cores** for radio, television and telephone industries. Plans to initially manufacture 5 million pieces annually, expand production later. Firm has received UN grant to fund specialist to help set up operation. Feasibility study has been completed for project. Nejat Atsan, San Elektronik, Atac Sokak 61/3, Yenisehir, Ankara. WTDR. P-75605. OPIC.

3732—INDIA—Firm seeks technical collaboration with an American firm for manufacture of GRP (glassfibre reinforced plastic) **boat hulls** under 20 feet. Company presently manufacturers polyester glass fibre filament-wound tanks for heavy duty chemical storage, processing service and motorized transportation. Contact: M. L. Garg, Resident-Director, Trade Development Authority of India, 666 Fifth Ave., New York, N.Y. 10019. Telephone 212-586-5066. P-75616.

3841—SWEDEN—Swedish organization offers licensing opportunities to U.S. firms to manufacture and distribute its **disposable surgical drape clips and disposable forceps.** Both products are used in Swedish hospitals. STERI-LOCK surgical drape clip subsitutes for stainless steel clip used with conventional surgical textiles. It is made of nylon reinforced with glass fibers. Because of its smooth surface it will not damage surgical textiles or gloves. It is completely radio-translucent and there is no need to remove it for X-ray examinations. It is easily identified by a small metal rivet. Drape clips are sterilized and packed in bags with five clips in each. Disposable forceps are made of nylon reinforced with glass fibers. Material withstands autoclave temperatures. Forceps are conveniently used for suture removals and wound dressing. Organization provides most Swedish hospitals and clinics with equipment and material, and develops and manufactures special medical products. Anders Essen-Moller, Landstingens Inkopscentral, Fack, S-171 83 Solna. Cable: LINCENTRAL STOCKHOLM ; telex; 105 28. WTDR. P-75610.

8911—GERMANY—Engineering firm which **designs and constructs processing plants for chemical and food industries** seeks licenses from U.S. firms in similar fields. Firm has special interest in processing methods and techniques which are new to European market. Company maintains engineering offices in three German cities, was established in 1969, employs 19. Ingenieurbuero Franken, Balthasarstr. 79, Postfach 130125, 5000 Koeln. P-75607.

World Fair On Technology Exchange Set For Chicago

A World Fair for Technology Exchange will be held in Chicago at the Holiday Inn O'Hare/Kennedy Convention Complex Feb. 2-6, 1976, by Dvorkovitz & Associates of Ormond Beach, Fla. The event will offer industrial firms, government agencies and other groups searching for manufacturing oppor-

tunities and products available for license a place to meet and negotiate technology exchanges. More than 12 foreign governments, the Commerce Department's National Technical Information Service, National Aeronautics and Space Agency and Argonne Laboratories are scheduled to participate.

Major activities will include presentations featuring 30-minute sessions on various categories of available technology in ten different meeting rooms; exhibits in booths throughout the convention center, and a computerized data bank offering a repository of licensable technology and industrial inventions that will be available to all fair participants without charge.

Attendance of 5,000-10,000 professional registrants from around the world is anticipated. Contact: David S. Devor, Project Manager, Dr. Dvorkovitz & Associates, P.O. Box 1748, Ormond Beach, Fla. 32074, telephone, 904-677-7033; or Tom D. Mackey, Sales Manager, Holiday Inn-O'Hare/Kennedy, 5440 North River Road, Rosemont, Ill. 60018; telephone, 800-323-6864.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the United States under a licensing agreement or in partnership, write the Domestic Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

FRANCE — Manufacturer of materials handling equipment seeks U.S. licensee to produce its **pallet loading machine.** United States patent is held on the machine. File 2815

GERMANY—Developer and manufacturer of **vacuum flask evaporators** offers license for this equipment to U.S. producer of scientific apparatus, preferably chemical laboratory apparatus. Subject evaporator represents departure from present low-capacity, static units and permits such diverse procedures as crystallizations, steam distillations, milling or grinding, radioactive testing, as well as separation of two component mixtures. File 2816

GERMANY—A leading West German producer of biological products and equipment for blood transfusions wishes to license production of its **blood bags, derivatives of human blood, culture media, plasma substitutes, and infusion solutions.** The bag systems include single, double, and triple units for collection, preparation, and transfusion. File 2817

SWEDEN—U.S. licensee is sought for production and distribution of **automatic swimming pool cover** intended for private pools. It is made of aluminum profiles and polyvinyl chloride cover and is operated by hydraulic-mechanical system using ordinary circulating pump. Cover is strong enough to permit people to walk on it. File 2818

UNITED KINGDOM — Manufacturer, distributor, and exporter of agritultural and industrial dehydrators and related products such as grass and manure driers, waste reclamation plants, organic manures, and animal by-products plans to license its new **dehydrator.** This equipment can process an almost limitless range of wastes, effluents, and manures. File 2819

Foreign Trade Inquiries

These trade opportunities are based on reports received from the U.S. Foreign Service—Department of State by the Trade Opportunities Division, Room 2323, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1972 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

The mark (•) indicates that this trade opportunity is a request for bids by a foreign government agency.

Direct Sales

Building construction

• **15100—TRINIDAD & TOBAGO**—Prequalification invitation for firms to bid on project involving construction of nine secondary schools (average capacity, 1,000 pupils) and a teacher training college (640 places) at various sites throughout Trinidad. Construction should start in early 1976 on all projects. Financed by World Bank loan. Prequalification questionnaires may be obtained from The Director, Projects Implementation Unit, 5 Stanmore Ave., Port of Spain, Trinidad, West Indies. Prequalification deadline Oct. 6.

Heavy construction

• **16200—SOUTH AFRICA**—Chief Electrical Engineer's Department, Rm. 501, S.A.R. Laboratory Bldg., Johannesburg, invites firms to bid for design, manufacture, installation and commissioning of 25 kV single-phase traction substation equipment between Pendoring-Thabazimbi and Ermelo-Richard's Bay. Tender No. CEE260. Bid deadline Oct. 3. Bid documents may be inspected at above office; a set may be obtained on payment of deposit of R10 (ten rand).

Soap, detergents, cleaning preparations, perfumes, cosmetics

• **28410 — ETHIOPIA** — Supply of 800,000 kilograms of toilet soap as 100-150 gram bars with specification as follows: fatty-acid content 77 percent; resin acid max. 3 percent of total fatty acids; foreign solubility in ethanol max. 2 percent; free caustic alkali max. 0.05 percent; total free alkali max. 0.22 percent; total chloride max. 0.8 percent; moisture content max. 15 percent. Bids requested as soon as possible by Manager, Ethiopian Import-Export Corp., P.O. Box 1897, Addis Ababa; telex 21041.

Steel mill products

• **33100—ECUADOR**—Steel tubing, joints and valves of different sizes. Tender No. EMAP, No. 2; bid deadline was Sept. 10, may be extended to Oct. 10. Empresa Municipal de Aqua Potable de Quito, Garcia Moreno 883, Quito. Tender documents available at above address at $12. Firms submitting offers must have legal representation in Ecuador.

• **33100 — INDIA** — 138,097 meters casing pipes (seamless) conforming to latest API standard 5A, range-3. Tender No. DSP/IMP/TBR/2/75; bid deadline Oct. 8. Oil and Natural Gas Commission, Directorate of Stores and Purchase, Tel Bhavan, Dehradun, U.P., New Delhi. Tender documents available free at above address.

Rolling, drawing, extruding of nonferrous metals

• **33500 — IRELAND** — Supply, installation and testing of coaxial cable line systems for television. Tender No. 3ML/75; bid deadline has been extended to Sept. 30. Department of Posts and Telegraphs, Contracts Section, Marlborough St., Dublin 1. Specifications available from Copper, Lead and Zinc Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-2438.

Special industrial machinery

• **35594—INDONESIA**—Rubber processing equipment. Tender issued by State Estate Enterprise. Financing from IDA/World Bank loan. Bid deadline Oct. 3. Tender documents available for $12.50 each (RP 5 000) from: IV, Jalan Prof. Yamin 5-B, Medan.

General industrial machinery

• **35600—THAILAND**—27 sets of 300 cu. m/hr. and 85-meter head pumps together with motors and accessories. Products include 3,750m. well casings of 250mm. dia. for 27 wells; 2,250m. well casings of 400mm. dia. for 27 wells; 30 transition pieces for well casings of 250 and 400mm. dia; 324m. well screen of 250mm. dia. for 27 wells. Tender No. PAW-1; bid deadline Oct. 15. Procurement & Material Division, Metropolitan Water Works Authority. Siyak Mansri, Sapandan, Bangkok 1. Project financed by General Fund Loan from Asian

Development Bank (ADB). Materials supplied are to be produced in member countries of ADB. Tender forms, conditions and specifications may be obtained from above address at $125 per set.

Service industry machinery

• **35810—ALGERIA**—Ministere Des Postes Et Telecommunications, 4, Blvd. Mohamed V, Algiers, is seeking 70 vending machines for postage stamp books. Bid deadline Oct. 31. Tender documents available on loan basis to firms located in U.S. from Science and Electronics Division, BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

Electric lighting, wiring equipment

• **36430—HONDURAS**—Empresal Nacional de Energia Electrica, Departamento de Proveeduria, Apartado Postal No. 99, Tegucigalpa, has issued tender No. 750-10 for design and supply of 7 lighting arresters and/or 5 coupling capacitors. Bid deadline Nov. 3. Contractual documents available from above address or from Harza Engineering Co. International, 150 South Wacker Dr., Chicago, Ill. 60606, for $50 per set.

Communications equipment

• **36610 — ECUADOR** — Instituto Ecuatoriano de Electrificacion, Oficina 102, Av. 10 de Agostos 1820, Quito, has issued tender No. ST/7 Y ST/8 and accessories for telephone switchboard equipment. Bid deadline Oct. 17. Bid should offer equipment necessary in 3 categories: wave carrier communication equipment for transmission lines; master system for monitoring and automatic electricity generation control; remote monitoring stations. Prequalification documents (in Spanish) must be acquired from Inecel at above address for non-refundable US$20 for each licitacion.

• **36620—GREECE**—Ministry of Commerce, State Purchases Directorate 4, 20 Canningos Street, Athens, has issued tender No. 765/1975 for supply of 200 UHF & 131 VHF portable transceivers for police use. Bid deadline Oct. 7. Copy of tender documents available to U.S. companies from Science and Electronics Division, BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

• **36620—KOREA**—Office of Supply, Seoul, has issued Invitation No. IDA-75143-PII for supply of following products for Ministry of Education: telescopes, binoculars, barometers, meters, projectors, tape recorders, and incubators. Bid deadline Oct. 8. Specifications available on short-term loan basis to firms located in U.S. from Science and Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

3662691—HONG KONG—Flight simulators. Heavily involved in aircraft support equip. & is now agent for many U.S. firms. Would like to act as agent or rep. Bank reports favorably. Request is urgent. Cable or telex—Mr. H. F. Weil, Pres., Denson Enterprises, Ltd., Suite 10 A&B Imperial Bldg., 58-66 Canton Road, Kowloon, H.K. Cable Aquarius Hong Kong; Tel. 3-690247.

Ships

37313—INDIA—Firm has expressed interest in purchasing from U.S. five or six vessels, 1,000-ton of eight to ten-foot draft, capable of operation on inland water route from Calcutta through Bangladesh to Assam. CIWTC is government-owned firm. No bid deadline stated. Interested firms contact Commander K. Chelliah, Chairman, Central Inland Water Transport Corp., Ltd., 4 Fairlie Pl., Calcutta, 700001.

Important Notice

Member countries of the League of Arab States employ a secondary boycott against foreign firms which undertake certain specified types of business relationships with the State of Israel. It is possible that U.S. firms responding to trade or investment opportunities from Arab countries published herein may be asked at some stage of a transaction to participate in an Arab boycott-related restrictive trade practice as defined in the Department's Export Administration Regulations (15 CFR, Part 369 et. seq.).

Firms are reminded that pursuant to Section 3(5) of the Export Administration Act of 1969, as amended, it is the policy of the United States (a) to oppose restrictive trade practices or boycotts fostered or imposed by foreign countries against other countries friendly to the United States, and (b) to encourage and request U.S. concerns engaged in the export of articles, materials, supplies, or information to refuse to take any action, including the furnishing of information or the signing of agreements, which has the effect of furthering or supporting such restrictive trade practices or boycotts. Accordingly, U.S. concerns receiving such requests to participate in a restrictive trade practice or boycott are encouraged and requested to refuse to comply with them.

Firms are further reminded that U.S. concerns receiving requests to participate in a restrictive trade practice or boycott must report such receipt to the Department of Commerce in accordance with Section 369.2 of the above-cited regulations.

Engineering, laboratory, scientific, research instruments

• **38110 — ECUADOR** — Secretaria del Comite de Licitaciones, Escuela Poliecnica Nacional, Isabel la Catolica (El Giron), Quito, has issued tender No. 16/7/EPN for supply of laboratory and shop equipment for school training to include research and teaching materials and equipment for metallurgy, mechanics, hydraulics, structures, topography, electronics and electricity, petroleum, geology, industrial technology, nuclear investigation, and audio-visual training aids. Bid deadline Oct. 17. Specifications available from above address for $40 non-refundable.

• **38110—KOREA**—Office of Supply, Seoul, has issued tender No. ADB/L-75126-PII for control system for waterworks project. Bid deadline Oct. 7. Copy of specifications available on short-term loan basis to firms located in U.S. from Science and Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

Instruments for measurement, analysis and control

• **38230—KOREA**—Office of Supply, Seoul, has issued tender No. ADB/L-75140-PII for water treatment plant equipment for waterworks project Bid deadline Oct. 17. Copy of specifications available on short-term loan basis to firms located in U.S. from Science and Electronics Div., BDC-466, Room 1001, U.S. Dept. of Commerce, Washington, D.C. 20230, 202-967-5569.

Surgical, medical, dental instruments

• **38410 — LIBYA** — Central Tender Board invites specialized firms to bid for supply of medical and hospital instruments and equipment. Tender No. 32/75, bid deadline Nov. 3. Tender documents and specifications obtainable from General Administration for Pharmaceutical and Medical Equipment, Ministry of Health, Tripoli, for $75.

Photographic equipment, supplies

• **38610—BOLIVIA**—Departamento de Compras, Caja Nacional Seguiridad Social, Casilla 697, La Paz, has issued tender No. 8/75 for medical X-ray film. Bid deadline Oct. 2. Copy of specifications available from above address.

Watches, clocks, parts

3873587 — HONG KONG — Digital electronic watch movements & parts & quartz watch movements at 32,768 hz. Small proprietorship dealing primarily in mfg. & exporting of electronic & quartz watches. Financial reference satisfactory. WTDR 4/75. Reply to—Jimmy S. B. Wong, Gen. Mgr., Panter Computer Time Corp., 702 Leeloong Bldg., 4 Queen Victoria St. Cable Meritquartz; tel. 5-265389.

Scrap materials

5093XXX — GERMANY — 3,000-5,000 tons stainless scrap, AISI grades No. 304 or 316 or combination of these. Subsidiary of Swiss firm Metals & Mining AG, Zurich. Contemplates additional large purchases of steel scrap if U.S. suppliers offer appropriate terms & able supply volume required. Reply by fastest means to—Werner Hartmann, Metals & Mining (Deutschland) GMBH, 4 Dusseldorf, Volkardeyer Weg 49, Tel: 0211/424569.

Services

• **89100—ARGENTINA**—EBY invites firms to bid for the flood control study of Parana River and its tributaries between Iguaza and the River Plate, and for that part of the Paraguayan River between Asuncion and its confluence with Parana. Study will consist of three parts: investigation of flooding problem itself; estimate of economic cost of flooding, and recommendations for alternative solutions to reduce or eliminate damage. Proposal to include a four-month course on river systems to be given by foreign professionals who participate in the study for local technicians designated by EBY. This study is part of the 3,567 Mw. binational (Argentine-Paraguayan) Yacyreta-Paipe Hydroelectric Project. Bidders must commit themselves to staff their project group with at least 60 percent Argentine & Paraguayan technicians and professionals during the first stage of the study. Only firms with previcus experience with this type of work will be considered. Bids will not be accepted from firms which are subsidiaries of or related (directly or indirectly) to construction companies and/or companies engaged in manufacture or installation of electromechanical equipment. Proposals must be valid for at least 120 days from bid opening date. Firms quoting and not having representation in Argentina will have to establish domicile in the city of Buenos Aires. Customer will finance work. Language of correspondence is Spanish. Bid documents must be obtained prior to submitting offers from: Direccion Financiera, Entidad Binacional Yacyreta (EBY), Avda. Roque S. Pena 501, 5 Piso, Buenos Aires, Argentina, for $2.400 Arg. Pesos (U.S.$1=approx. 28.08 Pesos), or at Entidad Binacional Yacyreta, Humaita 357, 2 Piso, Asuncion, Paraguay, for $20,000 Guaranies (U.S.$1=approx. 126 Guaranies). Bid deadline is Sept. 15, at 11 a.m.

Metals production & processing

9914101—MALI—Firm negotiating hot galvanizing plant which will be extension of current enamel factory in Bamako, Mali. Plans galvanizing oval slope basins with handles & water buckets. First yr. planned production 4,000,000 pieces (about 800 tons) with eventual annual production 1 million pieces. Type of combusion—fuel oil using diesel oil burner type BP 11, dimension 3, hp 314, V200 cy 50 phi. From existing enamel plant machine dept., firm can meet added requirement from galvanizing plant. Indicates any plan for galvanizing plant could include proposal for modification of existing pickling dept., installation & construction of furnace for zinc galvanization, measures for air & water pollution control. Total est. cost budget & number technicians proposed for installation & initial stage required. Embassy understands this will be first galvanizing plant W. Africa (nearest in operation in Kenya). Already operates enamelware plants in Bamako & Dakar, Senegal, as well as other mfg. projects in Asia and Near East. Local administrative & technical management is Chinese. Copies all correspondence should be sent to Directeur, Societe d'Emaillage et de Galvanisation du Mali, B.P. 1579, Bamako. Firm in contact wih several potential European suppliers. Local manager recommends any interested U.S. parties contact firm's Hong Kong office immediately. Reply ASAP to—Kin Foong Fnamel Factory (H.K.) Ltd., Rm. 1111, Star House, 1 Salisbury Rd., Kowloon, Hong Kong.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Fabricated textile products

2396217—UNITED KINGDOM—Furniture trimmings. Established as sales agency in 1972 (an assoc. co. Sander-Shade Ltd, manufacturers of window blinds). Sells furnishing fabrics to specialized retail outlets, dept. stores & decor designers. In addition, sales made to European countries. Wishes act as agents for U.S. mills producing good quality furnishing fabrics of all types & window shade fabrics, trimmings, etc. Reply to—Mr. M. Cardno, Carmichaels Furnishings, Flat 1. 12 Brooklyn Lodge, Mill Hill Lane, Barnes, London SW13. Tel. 01-622-9131.

Farm machinery

3523098 — UNITED KINGDOM — Brush wood chippers trailable behind a vehicle for breaking up tree branches so that they can be compacted. U.K. distr. for Vermeer Mfg. Co., Pella, Iowa, for log chippers, stump cutters & tree lifting equip., but this U.S. company does not mfg. brush wood chippers. Estab. 1971 as private Co. Has 6 employees, 3 salesmen & annual sales volume 150,000 pounds. Engaged in distr., import & export worldwide of various types of civil engineering, industrial & ag. machinery, currently holding 3 U.S. distributorships. Reply to—Kenneth L. Bain, Man. Dir., Metaquip Ltd., Blandford Heights Blandford Forum, Dorset DT11 7TE. Tel: 02582-4226; telex: 417171; cable Metaquip Blandford Dorset.

General industrial machinery

3561114 — AUSTRALIA — Engine-driven self-priming high-head fire fighting pumps, complete with engine which must be either Briggs & Stratton or Wisconsin, or equal. Two types unit required. First with min. capacity to pump 12 U.S. gallons/minute at 150 p.s.i. & 48 U.S. g.p.m. at 20 p.s.i., max. weight not over 250 lbs. Second unit must pump 12 U.S. g.p.m. at 80 p.s.i. & 42 U.S. g.p.m. at 20 p.s.i., max. weight not over 100 lbs. Discharge outlet up to 1.5 in. Subsidiary of Weirs in U.K., well estab. in Austrialia. WTDR 6/75. Post believes this opportunity serious & urgent. Initial order would be for 100 of ea. unit, later 500 000, if suitable pump can be located. Excl. distr. Reply ASAP to—J. G. Anstey, Marketing Mgr., Weir Engineering Pty., Ltd., 33 Cross St., Brookvale, N.S.W. 2100. Tel. 939 6966.

3561129—AUSTRALIA — Large centrifugal single-stage frame-mounted single-suction slurry pumps. Subsidiary of Weirs, U.K. WTDR in prep. Est. value $250,000. Excl. distr. Reply ASAP to—Mr. J. G. Anstey, Marketing Mgr., Weir Engineering Pty., Ltd., 33 Cross St., Brookvale, N.S.W. 2100. Tel. 939 6966.

Household appliances

36343XX—AUSTRALIA—Exclu. distrib. for portable electric oil or waterfilled tube type room heaters; household electric mixers & blenders. Must operate on 240 volt, 50 cycle power supply & pass Australian standards. WTDR in prep. Reply to—Mr. M. Salha, Gen. Mgr., Yatsal Distributors, 74 King St., Newtown, N.S.W. 2042. Tel. 519 4533.

Czech Organization Seeks Office Equipment, Know-how

ZENIT, a Czechoslovak foreign trade representation association, is seeking to locate a U.S. firm to provide equipment, know-how and management planning (or layout design) for a large office complex located in Slovakia, the eastern province of Czechoslovakia.

Interested companies should contact Ing. Zdenek Turek, ZENIT Foreign Trade Assn., Kodanska 35, Prague 10 (Vrsovice), Czechoslovakia (telex: 121900). Firms may wish to provide a copy of their initial correspondence to the U.S. Embassy, Trziste 15, 125 48 Prague (Mala Strana).

Future Construction Abroad

IRAQ—The Port Administration invites civil engineering firms to submit offers for turnkey construction of **additional berths at Um-Qasr Port,** to include site investigation, design, supply and installation of equipment, as well as construction, for two berths for exporting sulphur and one berth to handle general cargo. General conditions and specifications of tender will be available for review in office of Ms. Cherie Loustaunau, Room 6015, Department of Commerce, Washington, D.C. 20230, 202-967-4441. In order to make a valid bid, firms must purchase their own tender documents for $631 from Mr. Jubail Shamoon al-Khuss, Director General, Iraqi Ports Administration, Magal, Basrah; cable Mawani Basrah. Bids due by Nov. 11.

IRAQ—Directorate General of Water and Electricity Projects, Baghdad, invites U.S. companies to bid on turnkey construction of **extension to the Kanaqin water supply system.** Work includes supply of equipment and spare parts, construction of road and footpaths and training of operators. Funded by Government of Iraq. Interested firms should obtain copy of tender documents from Directorate General for $171. Documents can be reviewed in office of Ms. Cherie Loustaunau, Room 6015, Department of Commerce, Washington, D.C. 20230, 202-967-4441.

FIJI—Largest project in Fiji under consideration for international financing is proposed **hydropower project at Monasavu Falls,** which will have a capacity of 70-80 MW. Project will cost estimated $100 million, including foreign exchange component estimated at $30-50 million. Feasibility study, funded by New Zealand foreign aid, was conducted by Enex consulting group of New Zealand. Preliminary indications are favorable, and government likely to place high priority on project. Implementing agency is: Permanent Secretary for Works, Public Works Dept., Ministry of Communications, Works and Tourism, Government Buildings, Suva.

ALGERIA—The state hydrocarbon monopoly, Sonatrach, is inviting prequalification for **construction of two phosphate fertilizer complexes** in Eastern Algeria at Tebessa and Annaba. Interested companies should contact Mr. Benzaghou, Sonatrach, Projet Engrais, Cheraga, Algiers (phone: 81-12-03 to 06). Offers should be submitted as soon as possible to: Division Engineering et Developpement, Projets Engrais Phosphates, Sonatrach 9, Rue Aboud Nouas, Hydra, Algiers, cable: SONEND ALGIER; telex: 52794.

GERMANY—Karstadt AG plans to enlarge its department store outlet in the Hermann Platz, Berlin-Neukoelln, by 20,000 sq. meters at a cost of more than $14.6 million. Construction will begin in the second half of 1975. To date only construction and architect's contracts have been awarded. Both Karstadt and the architect are seeking information on merchandising and point-of-sales equipment prior to final decisions on interior layout. Architect is: Dipl.-Ing. Helmut Kriegbaum, 1 Berlin 37, Schweitzerstr.10. Project Manager of Karstadt is: Herr Klesner, Projectleiter, Karstadt AG, 1 Berlin 31, Berliner Str. 150.

GUYANA — The anticipated World Bank financing (U.S.$7 million) of Guyana's **water supply and sewerage projects** constitutes only a small part of an overall plan for improvement and expansion of these facilities. The government is giving first priority to improvement of Georgetown's water supply system; an Israeli firm (ESI-Engineering Services International, Ltd., Tel Aviv), working under UNDP grant, has submitted an interim report recommending installation of a water treatment plant and new mains. Cost is estimated at U.S.$9-$18 million, depending on which of three alternative schemes is adopted. Government has approached World Bank. Other ESI studies, also sponsored by UNDP grant (PAHO/WHO), have resulted in reports on sewerage improvement and expansion in Georgetown, Linden, and New Amsterdam. Estimated total project cost for all three urban areas is U.S.$71 million. ESI has recommended asbestos cement be used for mains, both in sewerage and water supply projects. Projects also require material and equipment for construction of trunk sewers, street sewers, service connectors, force mains, a river crossing (Linden), pumping and lift stations, and stabilization pords. Principal contact for information is Guyana Water Authority, D'Urban Backlands,

Georgetown, Guyana. OPIC.

JAMAICA — World Bank has approved U.S.$15 million loan to help finance U.S.$33 million **water and sewerage project** for the Greater Kingston area. The water supply aspect of the project is being geared to provide an additional 10-11 million gals. of water daily to metropolitan Kingston by 1980 with some of this increased flow being provided this year. Also to provide for studies of longer-term development for more sources of water. Includes leak-detection survey and replacement of old main to reduce loss of water during transmission from source to distributing points and also during distribution. Mains replacement part will conserve further 5 million gals. daily. Sewerage part is expected to be first phase of construction of sewerage disposal system to be established within master plan for Kingston area. This phase will cover part of upper central suburban district and lower southwestern district including four large comparatively new housing estates. U.S. suppliers of equipment should contact Secretary/Manager, Water Commission, 28 Church St., Kingston. OPIC.

NEW ZEALAND—Chairman of the Wellington Harbour Board (WHB), Mr. H. A. James, announced New Zealand Ports Authority (NZPA) approval to Board to **reclaim 10 acres of land** off end of present two-berth container terminal. Local Authorities Loans Board also approved raising of finance to cover this first section of planned NZ$16 million (NZ$1.00=U.S.$1.32) program for further **development of container facilities.** Dumping operations for reclamation are under way. Development plan also includes possible purchase of third container crane.

SWEDEN—Dagens Nyheter and Svenska Dagbladet reported that government has granted permission to Boliden AB to utilize more than Skr. 68.8 million (Skr. 4.00=U.S. $1.00) of equipment investment and working environment improvement funds for **investment at Ronnskarsverken plant,** near Skelleftea. Object is to reduce outlets of arsenic and mercury, for which purpose company will construct facilities for purification of non-iron metal processing gases, at total cost of Skr. 52 million. Will also construct facilities for extraction of liquefied sulfur dioxide from processing gases at total cost of Skr. 66.5 million. Interested in receiving proposals from U.S. suppliers. Interested U.S. firms contact: Carl-Gunnar Jacobsson, Vice President, Boliden AB, Ronnskarsverken, S-932 00 Skelleftehamn. Tel: 0910/315 00; Cable: Bolidcomp Skelleftea; Telex 6874 Bolidsk s.

TURKEY—Sewage system for Istanbul: Preliminary engineering and design phase of sewage pumping stations and outfall facilities for Atakoy and Kucuk Cekmece areas has been completed by U.S. firm, Camp Dresser and McKee, and covers only small portion of overall master plan scheme of **Istanbul Sewage System.** Will be implemented and financed by Iller Bankasi Genel Mudurlugu, Ulus, Ankara (Provincial Bank). Cost of the two stations estimated over $15 million. Both stations will be comprised of preliminary treatment (screening & grit removal), double pumping system and submarine outfall construction. Specifications for equipment to be procured have been prepared and it is anticipated that project tender will be released this month. Preliminary talks with IBRD regarding financing are under way. Foriegn equipment to be procured: 3 ea. screw pumps (78" dia. with 275 lt/sec and 7.6 M total head cap.); 3 ea. screw pumps (78" dia. with 970 lt/sec & 5.4 M total head cap.); 3 ea. screw pumps (90" dia. with 785 lt/sec. & 7.9 M total head cap.); 3 ea. outlet pumps with 440 lt/sec cap.; 3 ea. outlet pumps with 190 lt/sec cap.; 4 ea. screenings caterary type; 2 ea. camp type grit removal mechanical equipment with capacity of 1105 lt/sec, length 30 M, width on top 3.2 M, width at bottom 0.7 M, depth 2.75 M and velocity 0.3 m/sec.; 2 ea. camp type grit removal mechanical equipment with capacity of 780 lt/sec, length 25 M, width on top 2.8 M, width at bottom 0.7 M, depth 2.5 M, and velocity 0.3 M/sec; 2 ea. magnetic drive control panels for outfall pumps.

The Overseas Private Investment Corp. (OPIC) offers political risk insurance to U.S. construction firms planning to submit bids on projects in certain developing countries, identified by the "OPIC" notation at the end of some items. For further information on OPIC's construction insurance program, write Information Officer, Overseas Private Investment Corp., Washington, D.C. 20527. Tel: 202-632-1854.

FIJI—The central portion of the **Suva-Nadi road** consists of an unpaved stretch of about 40 miles between Deuba and Sigatoka. The road was divided into three sections for upgrading. The first section, from Nadi to Sigatoka, is scheduled for completion on Dec. 3. Eastern portion, from Suva to Deuba, has been contracted out, construction has begun and is scheduled for completion in June 1977. A decision has yet to be made whether the middle section will be carried forward as originally planned, or indefinitely postponed. The project is being carried out under supervision of Department of Public Works, Ministry of Communications, Works, and Tourism, Government Buildings, Suva.

Zaire Designates Importers Of Pharmaceutical Products

The Government of Zaire has announced that effective immediately the importation of pharmaceuticals is to be restricted to certain importers. These importers and their addresses (all Kinshasa) are: DCMP, B P. 1497; Ciba-Geigy, B.P. 4096; Carlo Erba, B.P. 7010; Hoechst, B.P. 726; Specia, B.P. 7097; Bayer, B.P. 8231; Warner Lambert, B.P. 7561; Mediphas, B.P. 2527; Bristol, B.P. 2449; Couvreur, B.P. 2115; Dumex DPK, B.P. 11559; Cyanamid, B.P. 2975; Pfizer, B.P. 5173; Pharma, B.P. 3315; Sogaf, B.P. 7007; Coles, B.P. 12099; Diorega Pharmacie, B.P. 246; Kin Medical, B.P. 13196; Sterling, B.P. 11230; Kinchim, B.P. 542; and Impexkin, B.P. 446.

Poland Offers Two Shows

The Polish Ministry of Machine Industry and the Ministry of Construction and Building Materials have invited American companies to participate in two specialized international exhibitions to be held simultaneously Nov. 24-27. Entitled "Modern Woodworking Machinery—Poznan 1975" and "Building, Road Construction, and Civil Engineering—Poznan 1975," both exhibitions will be held at the Poznan International Fairgrounds.

Interested U.S. companies write for further details to: IEG Industrie-Export-Interessen GMBH, 565 Solingen, POB 100 410, West Germany. This organization has been authorized by Polish officials to conduct preliminary organization for Western participants in these exhibitions.

SUBSCRIPTION ORDER FORM

ENTER MY SUBSCRIPTION TO **Commerce Today**
at $29.80. Add $7.45 for foreign mailing. No additional postage is required for mailing within the United States and its possessions. For shipment to all foreign countries include additional postage as quoted for each periodical or subscription service.

☐ Remittance Enclosed **(Make checks payable to Superintendent of Documents)**

☐ Charge to my Deposit Account No.

Send Subscription to:

NAME—FIRST, LAST

COMPANY NAME OR ADDITIONAL ADDRESS LINE

STREET ADDRESS

CITY | STATE | ZIP CODE

PLEASE PRINT

MAIL ORDER FORM TO:
Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

☆ U.S. Government Printing Office: 1975, 210-923/5

Commerce Department Directory

Commerce Building, 14th Street and Constitution Avenue, N.W., Washington, D.C. 20230, (202) 783-9200

ROGERS C. B. MORTON, Secretary of Commerce

JAMES A. BAKER, III, Under Secretary of Commerce

SECRETARIAL OFFICERS

WILMER D. MIZELL, Asst. Secretary for Economic Development

GUY W. CHAMBERLIN, Jr., Acting Asst. Secretary for Administration

JAMES L. PATE, Asst. Secretary for Economic Affairs

BETSY ANCKER-JOHNSON, Asst. Secretary for Science and Technology

ROBERT J. BLACKWELL, Asst. Secretary for Maritime Affairs (Maritime Administration)

DAVID N. PARKER, Acting Asst. Secretary for Tourism (United States Travel Service)

KARL E. BAKKE, General Counsel

TRAVIS E. REED, Asst. Secretary for Domestic and International Business

HEADS OF OPERATING UNITS

ROBERT M. WHITE, National Oceanic and Atmospheric Administration

HOWARD D. TIPTON, National Fire Prevention and Control Administration

C. MARSHALL DANN, Patent and Trademark Office

VINCENT P. BARABBA, Bureau of the Census

GEORGE JASZI, Bureau of Economic Analysis

ERNEST AMBLER, Acting, National Bureau of Standards

JOHN M. RICHARDSON, Acting, Office of Telecommunications

WILLIAM T. KNOX, National Technical Information Service

ALEX M. ARMENDARIS, Office of Minority Business Enterprise

Domestic and International Business Administration

DONALD E. JOHNSON, Deputy Asst. Secretary

ALAN J. POLANSKY, Bureau of Resources and Trade Assistance

CHARLES W. HOSTLER, Bureau of International Commerce

SAMUEL B. SHERWIN, Bureau of Domestic Commerce

ARTHUR T. DOWNEY, Bureau of East-West Trade

S. STANLEY KATZ, Acting, International Economic Policy

JOHN P. KEARNEY, Ombudsman for Business

JOHN P. GLEASON, JR., Acting, Office of Field Operations

DISTRICT OFFICES

ALBUQUERQUE, N.M., 87101, Room 316, U.S. Courthouse (505) 766-2386.

ANCHORAGE, 99501, 632 Sixth Ave., Hill Bldg., Suite 412 (907) 265-5307.

***ATLANTA,** 30309, Suite 523, 1401 Peachtree St., NE. (404) 526-6000.

BALTIMORE, 21202, 415 U.S. Customhouse, Gay and Lombard Sts. (301) 962-3560.

BIRMINGHAM, ALA., 35205, Suite 200-201, 908 S. 20th St. (205) 254-1331.

BOSTON, 02116, 10th Floor, 441 Stuart St. (617) 223-2312.

BUFFALO, N.Y., 14202, Room 1312, Federal Bldg., 111 W. Huron St. (716) 842-3208.

CHARLESTON, W.VA., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. (304) 343-6181, Ext. 375.

CHEYENNE, WYO., 82001, 6022 O'Mahoney Federal Center, 2120 Capitol Ave. (307) 778-2151.

***CHICAGO,** 60603, Room 1406, Mid-Continental Plaza Bldg., 55 E. Monroe St. (312) 353-4450.

CINCINNATI, 45202, 8028 Federal Office Bldg., 550 Main St. (513) 684-2944.

CLEVELAND, 44114, Room 600, 666 Euclid Ave. (216) 522-4750.

COLUMBIA, S.C., 29204, Forest Center, 2611 Forest Dr. (803) 765-5345.

***DALLAS,** 75202, Room 3E7, 1100 Commerce St. (214) 749-1515.

DENVER, 80202, Room 161, New Custom House, 19th and Stout Sts. (303) 837-3246.

DES MOINES, IOWA, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

DETROIT, 48226, 445 Federal Bldg. (313) 226-3650.

GREENSBORO, N.C., 27402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 275-9111, Ext. 345.

HARTFORD, CONN., 06103, Room 610-B, Federal Office Bldg., 450 Main St. (203) 244-3530.

HONOLULU, 96813, 286 Alexander Young Bldg., 1015 Bishop St. (808) 546-8694.

HOUSTON, 77002, 201 Fannin, 1017 Federal Office Bldg. (713) 226-4231.

INDIANAPOLIS, 46204, 357 Federal Office Bldg., 46 E. Ohio St. (317) 269-6214.

LOS ANGELES, 90024, 11201 Federal Bldg., 11000 Wilshire Blvd. (213) 824-7591.

MEMPHIS, 38103, Room 710, 147 Jefferson Ave. (901) 534-3213.

MIAMI, 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. (305) 350-5267.

MILWAUKEE, 53203, Straus Bldg., 238 W. Wisconsin Ave. (414) 224-3473.

MINNEAPOLIS, 55401, 306 Federal Bldg., 110 S. Fourth St. (612) 725-2133.

NEW ORLEANS, 70130, Room 432, International Trade Mart, 2 Canal St. (504) 589-6546.

***NEW YORK,** 10007, 41st Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

NEWARK, N.J., 07102, Gateway Bldg. (4th floor) (201) 645-6214.

OMAHA, NEB., 68102, 1620 Doidge St. (402) 221-3665.

***PHILADELPHIA,** 19106, 9448 Federal Bldg., 600 Arch St. (215) 597-2850.

PHOENIX, ARIZ., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. (602) 261-3285.

PITTSBURGH, 15222, 431 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

PORTLAND, ORE., 97205, 921 S.W. Washington St., Suite 521, Pittock Block. (503) 221-3001.

RENO, NEV., 89502, 2028 Federal Bldg. 300 Booth St. (702) 784-5203.

RICHMOND, VA., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

ST. LOUIS, 63105, Chromalloy Bldg., 120 S. Central Ave. (314) 425-3302.

SALT LAKE CITY, 84138, 1203 Federal Bldg., 125 S. State St. (801) 524-5116.

***SAN FRANCISCO,** 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave., (415) 556-5860.

SAN JUAN, P.R., 00902, Room 100, Post Office Bldg. (809) 723-4640.

SAVANNAH, 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. (912) 232-4204.

SEATTLE, 98109, 706 Lake Union Bldg., 1700 Westlake Ave. North (206) 442-5615.

* Regional Offices

UNITED STATES
GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS
WASHINGTON, D.C. 20402

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. GOVERNMENT PRINTING OFFICE
First-Class Mail

U.S.MAIL

Telephone Directory of Country Marketing Planners

Commercial and economic information on most trading partners of the United States is available from the Bureau of International Commerce, U.S. Department of Commerce.

The Bureau is organized geographically with a Country Marketing Manager responsible for a country or group of countries as listed below. Assistance or information about marketing in these countries may be obtained by dialing these key people directly: **202-967** plus the given extension.

Africa	
West and Central Africa	**4865**
East and South Africa	**4927**
Europe	
France and Benelux Countries	**4504**
Germany and Austria	**5228**
Italy, Greece and Turkey	**3944**
Nordic Countries	**4601**
Spain, Portugal, Switzerland and Yugoslavia	**3957**
United Kingdom and Canada	**4421**
Far East	
Australia and New Zealand	**2963**
East and South Asia	**5401**
Japan	**2425**
Southeast Asia	**2521**
Latin America	
Brazil, Argentina, Paraguay and Uruguay	**5427**
Mexico, Central America and Panama	**2314**
Remainder of South America and Caribbean Countries	**2995**

Special units within the Department of Commerce have been created to deal with the particular marketing situations:

Commerce Action Group for the Near East

North Africa	**5737**
Near East	
Bahrain, Iraq, Jordan, Kuwait, Lebanon, Oman, Peoples Democratic Republic of Yemen, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen Arab Republic	**5767**
Iran, Israel, Egypt	**3752**

Bureau of East West Trade

Eastern Europe	**2645**
USSR	**4655**
Peoples Republic of China	**3583**